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**Brophy et al.**

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(45) **Date of Patent: Oct. 31, 2006**

(54) **MATERNITY BED FOOT SUPPORT AND ABDUCTION ASSEMBLY**

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(73) Assignee: **Stryker Corporation**, Kalamazoo, MI (US)

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(51) **Int. Cl.**
***A61G 13/12*** (2006.01)

(52) **U.S. Cl.** ..... **5/602**; 5/624; 5/648; 5/651

(58) **Field of Classification Search** ..... 5/602, 5/624, 648–651; 128/882
See application file for complete search history.

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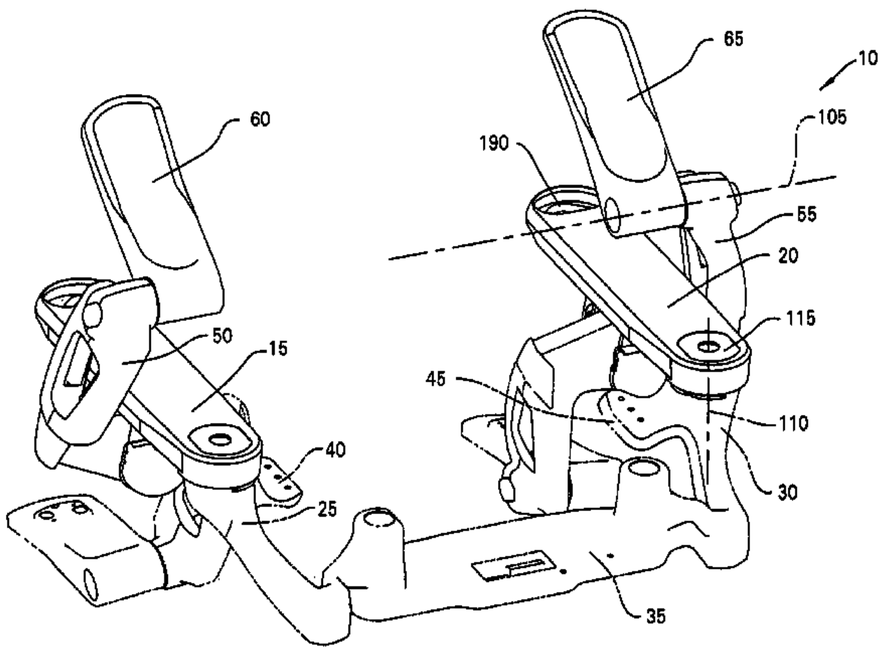
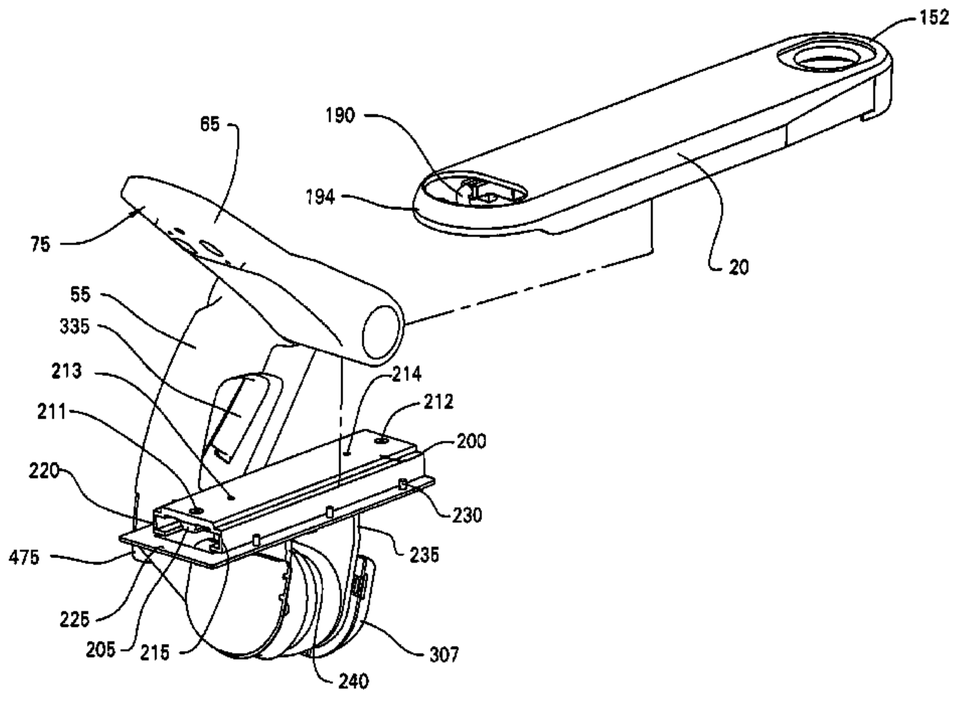
*Primary Examiner*—Michael Trettel
(74) *Attorney, Agent, or Firm*—Flynn, Thiel, Boutell & Tanis, P.C.

(57) **ABSTRACT**

A foot support and abduction assembly includes an abductor configured for pivotal attachment proximate a foot end of a maternity bed. The foot support is configured for locating in a stowed position below the abductor, and a calf support is attached to an undersurface of the foot support. An upright assembly has a first end that is secured to the abductor for longitudinal movement along a length of the abductor, a second end to which the foot support is movably mounted, and a locking mechanism for selectively securing the upright assembly in one of a plurality of positions along the length of the abductor. The upright assembly is further configured for movement from a deployed position to a stowed position, and the locking mechanism is unlocked when the upright assembly is in the stowed position.

**21 Claims, 29 Drawing Sheets**



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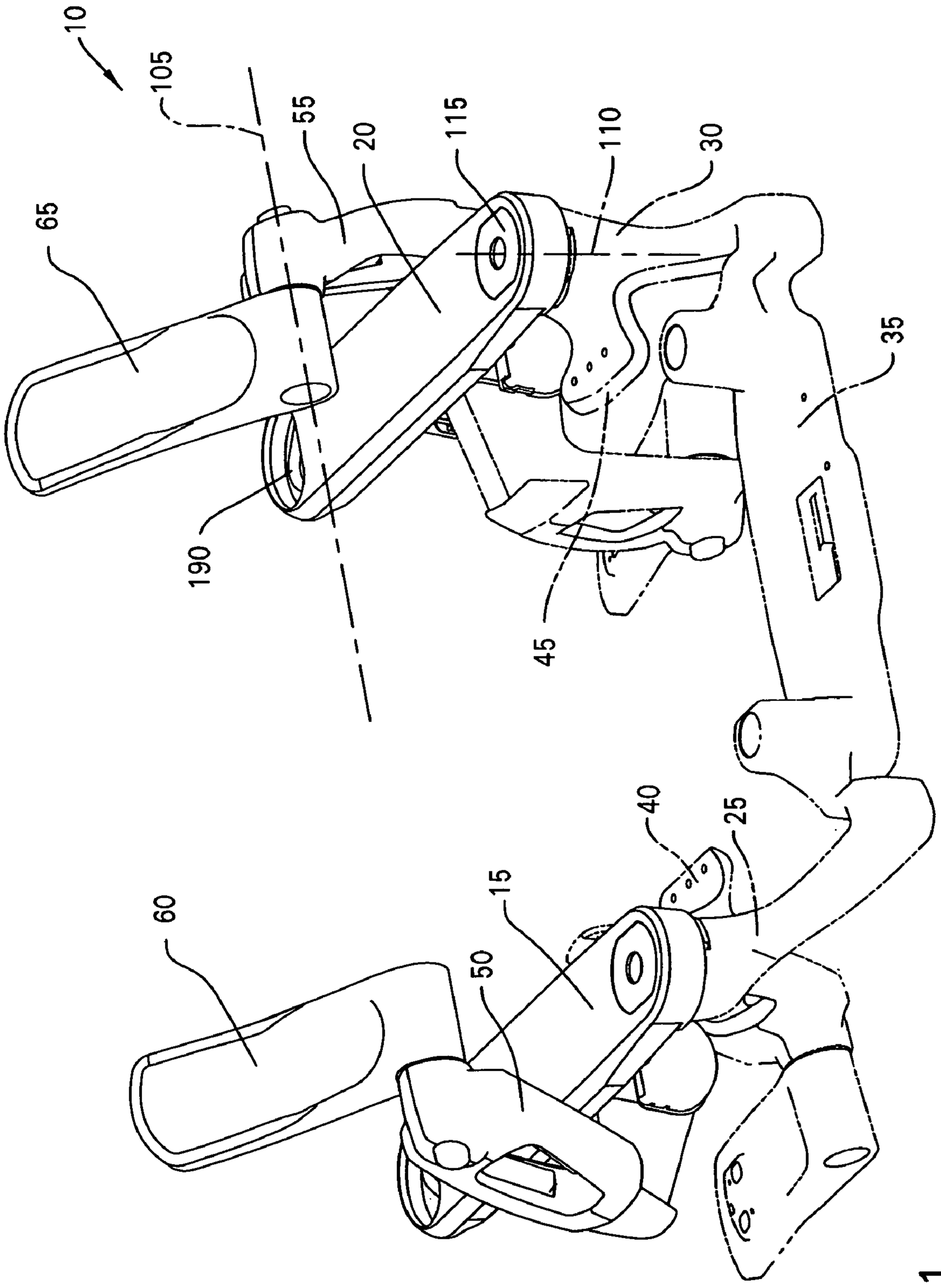



FIG. 1

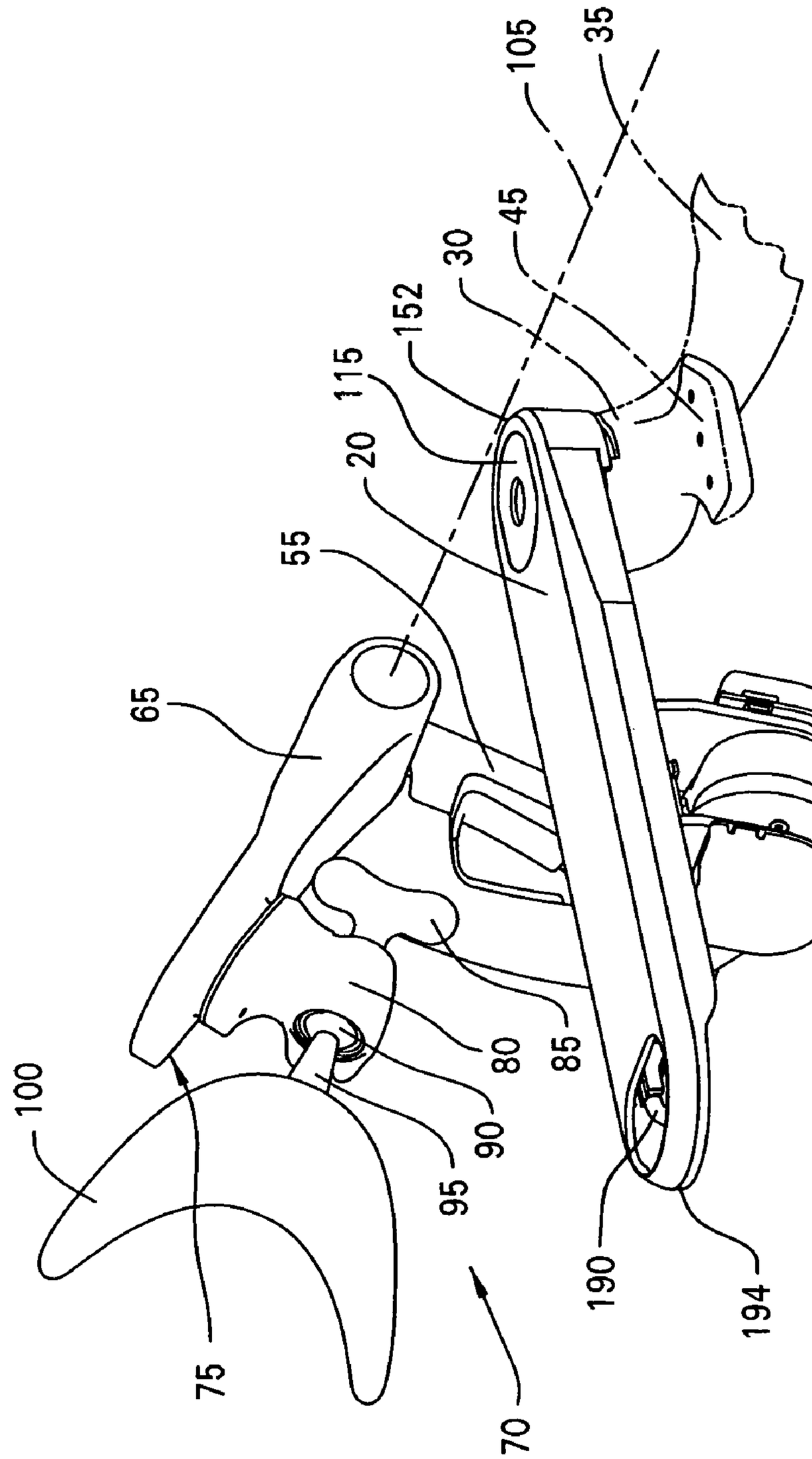



FIG. 2

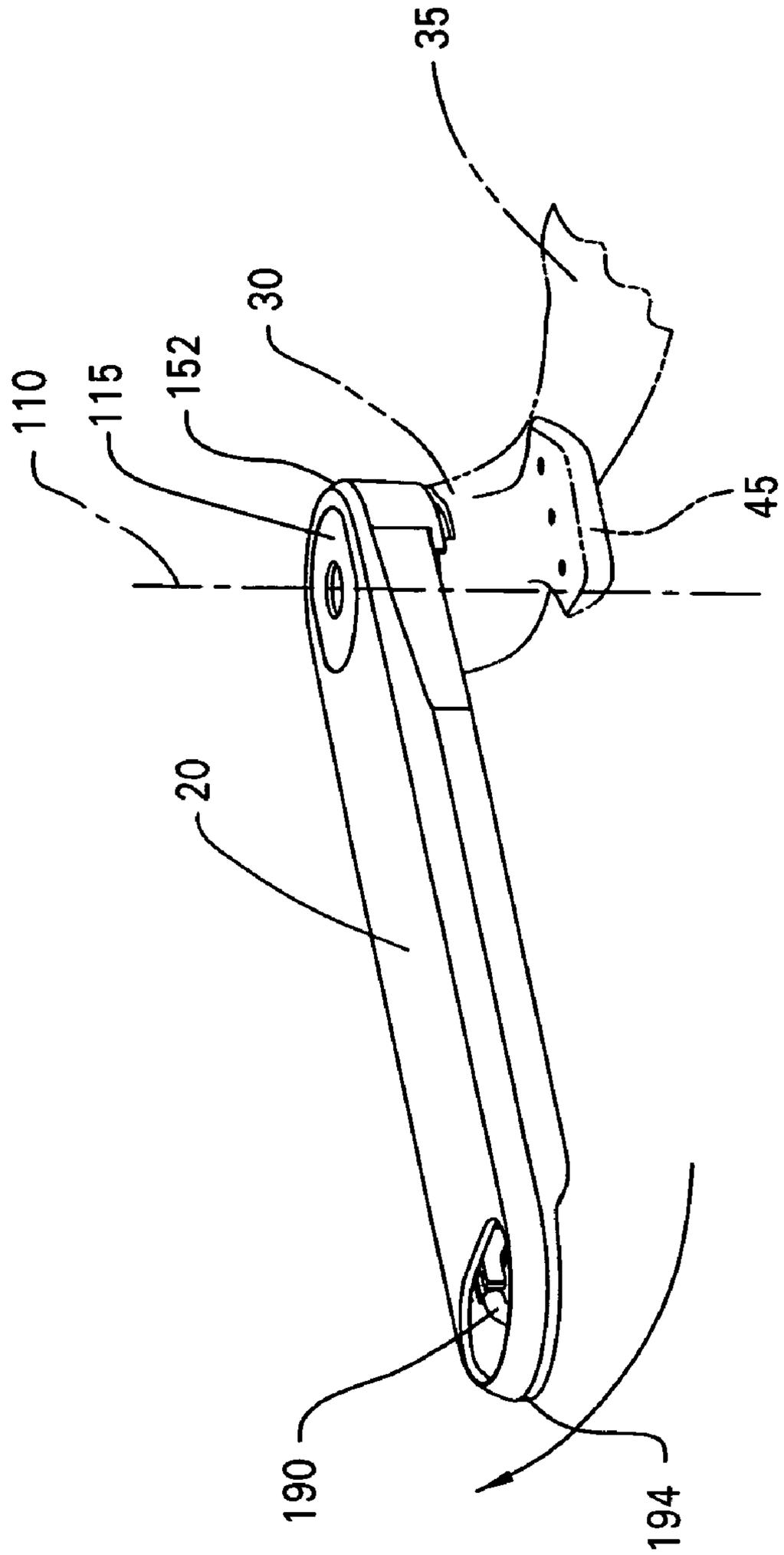
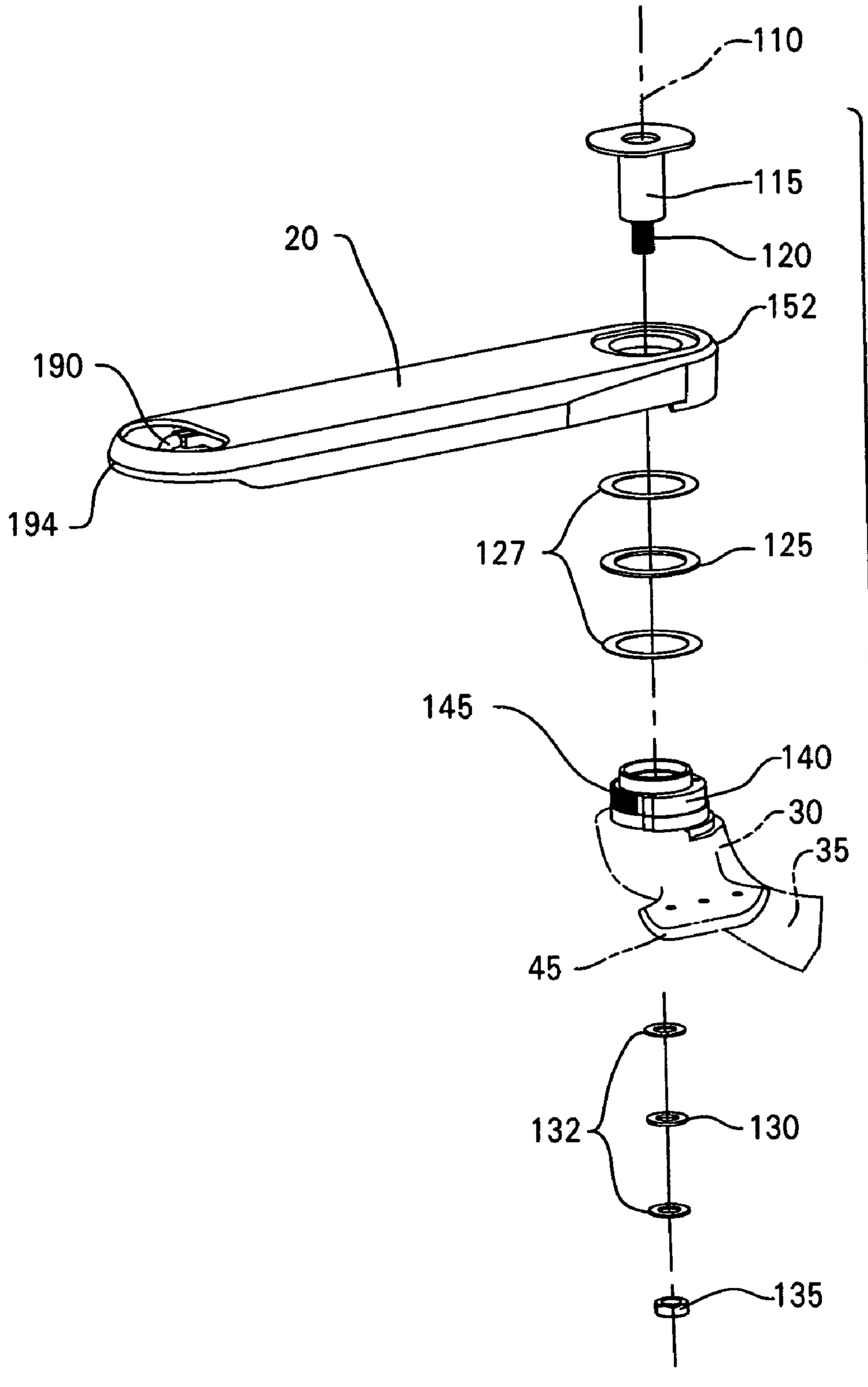



FIG. 3

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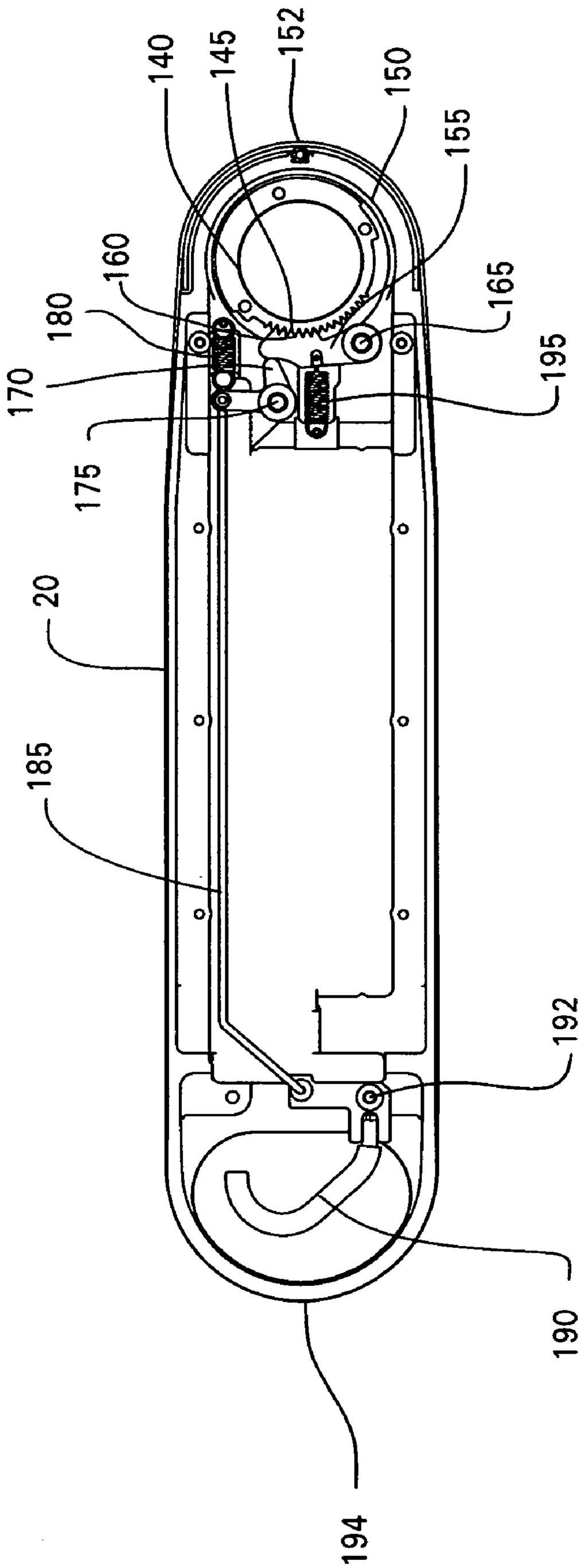


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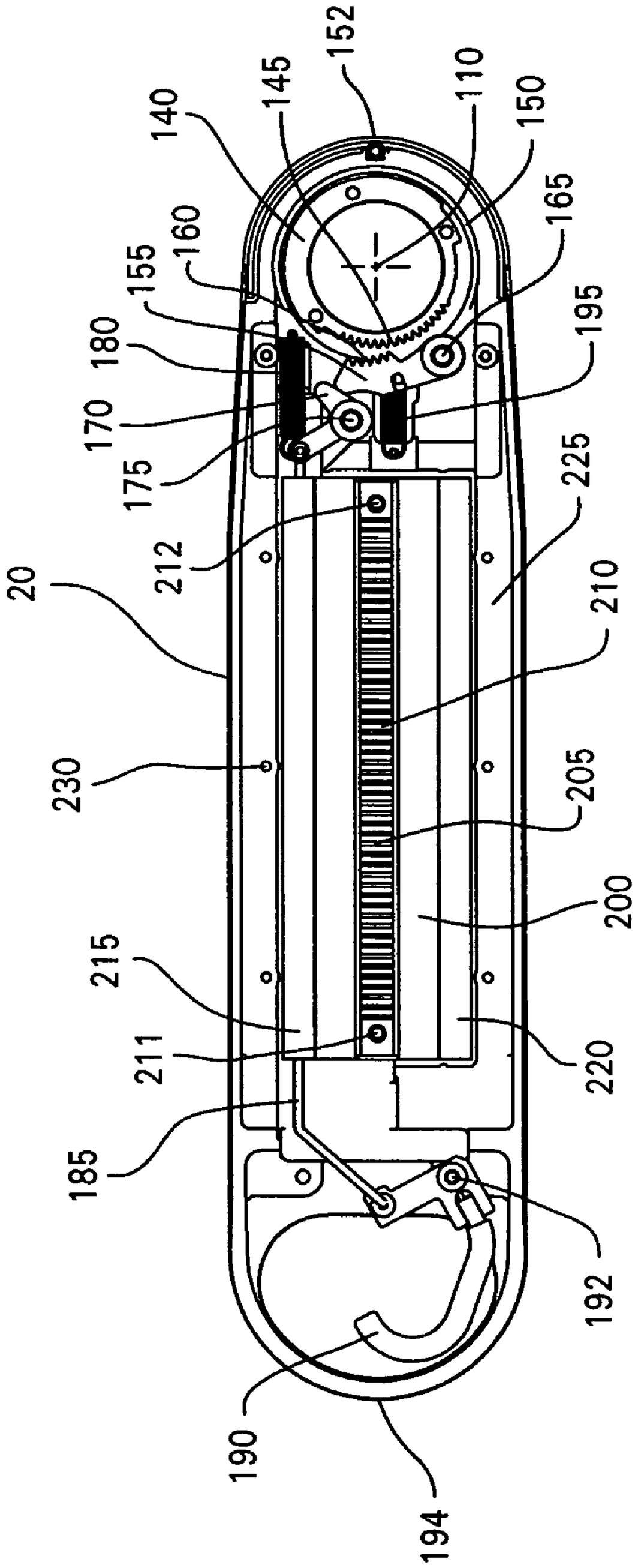
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FIG. 6

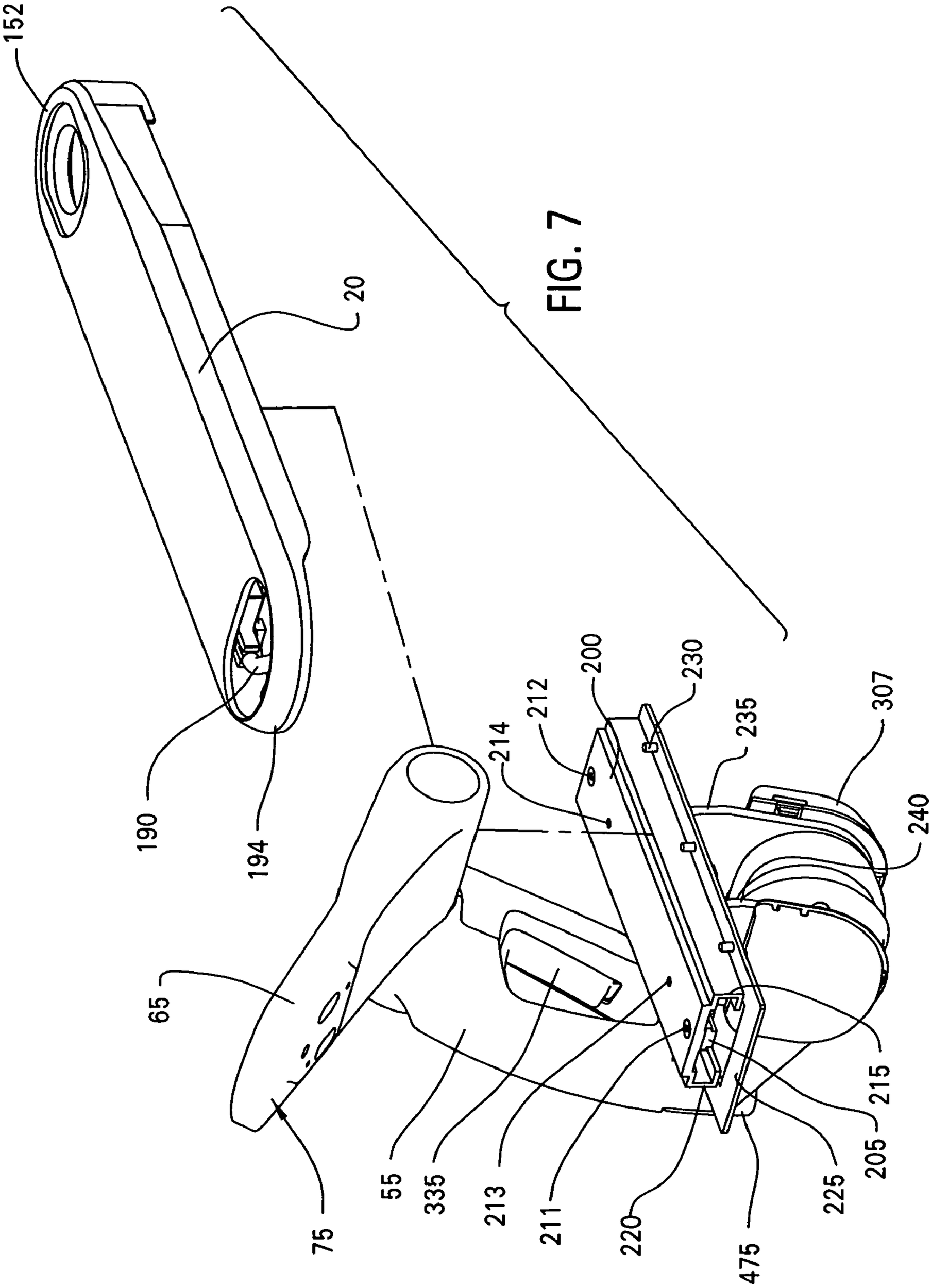
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FIG. 7

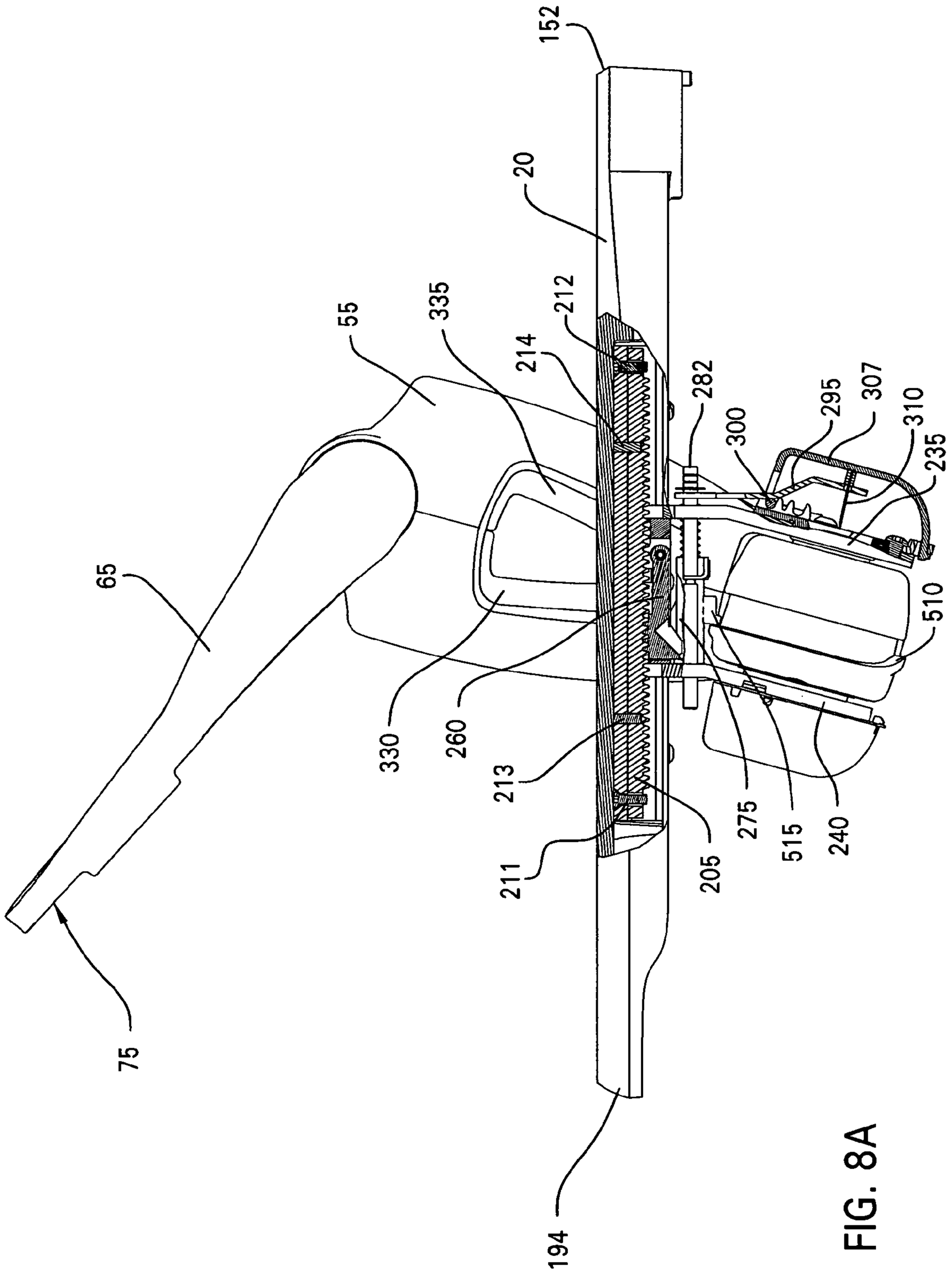
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FIG. 8A

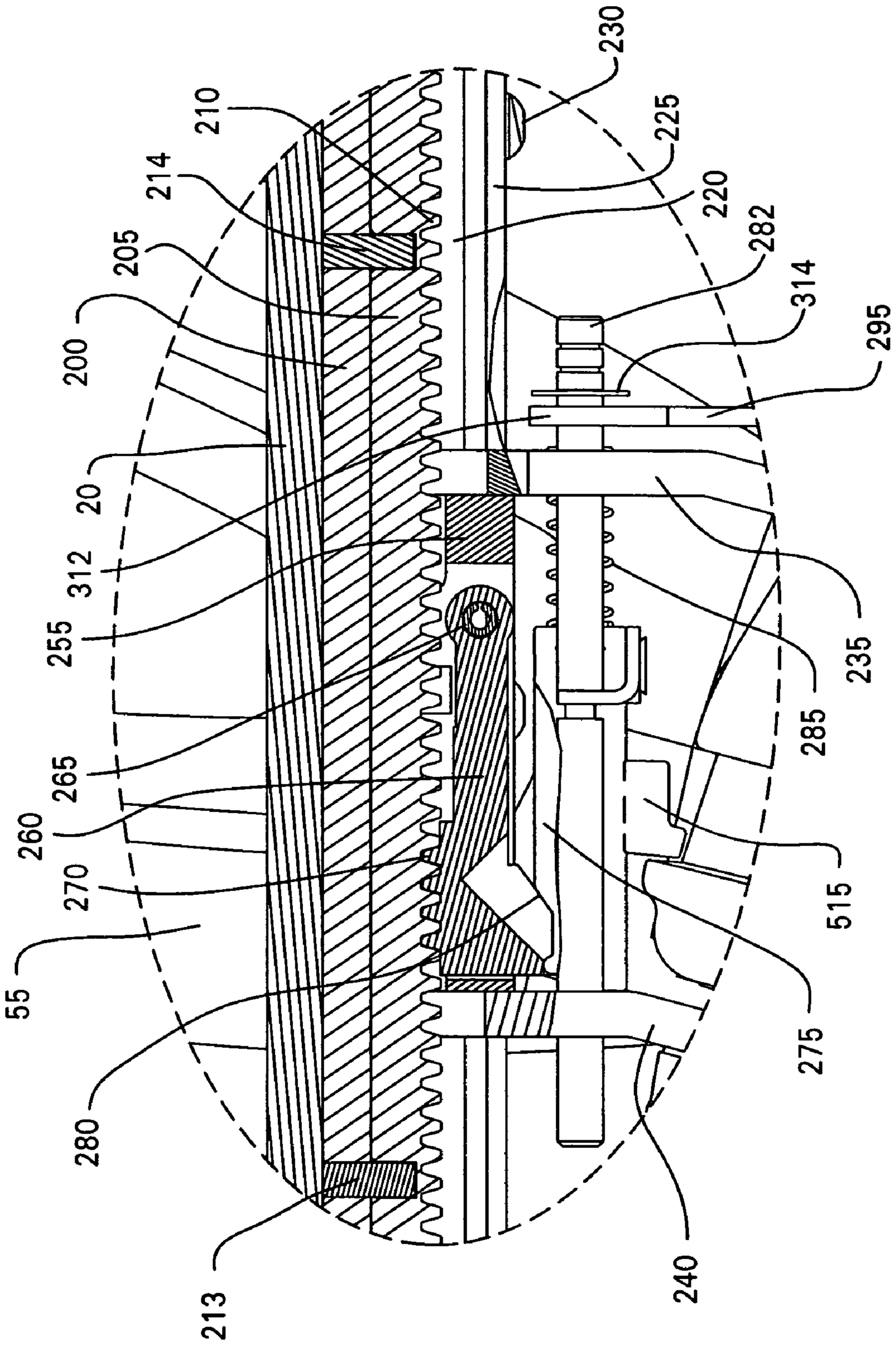
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FIG. 8B

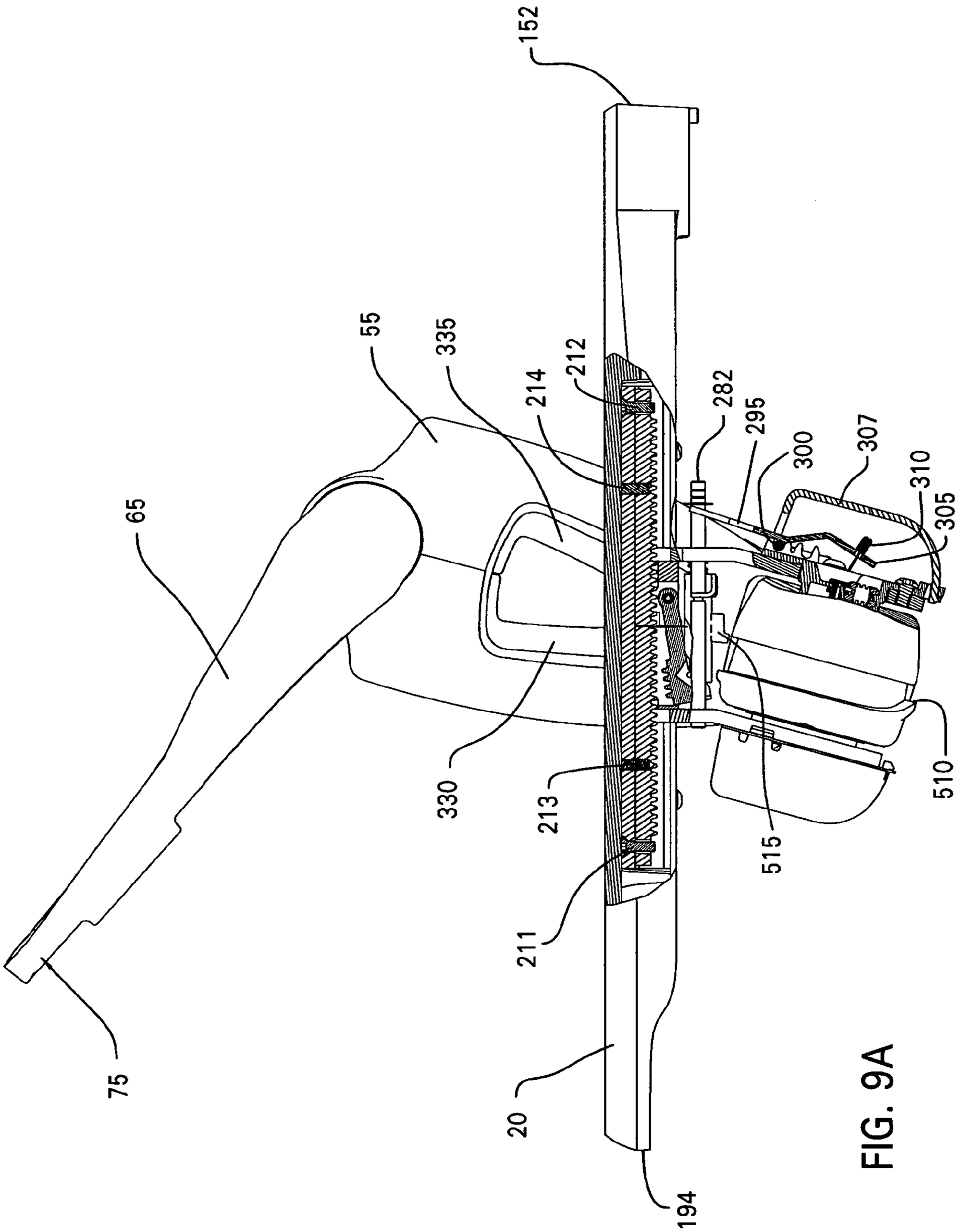
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FIG. 9A

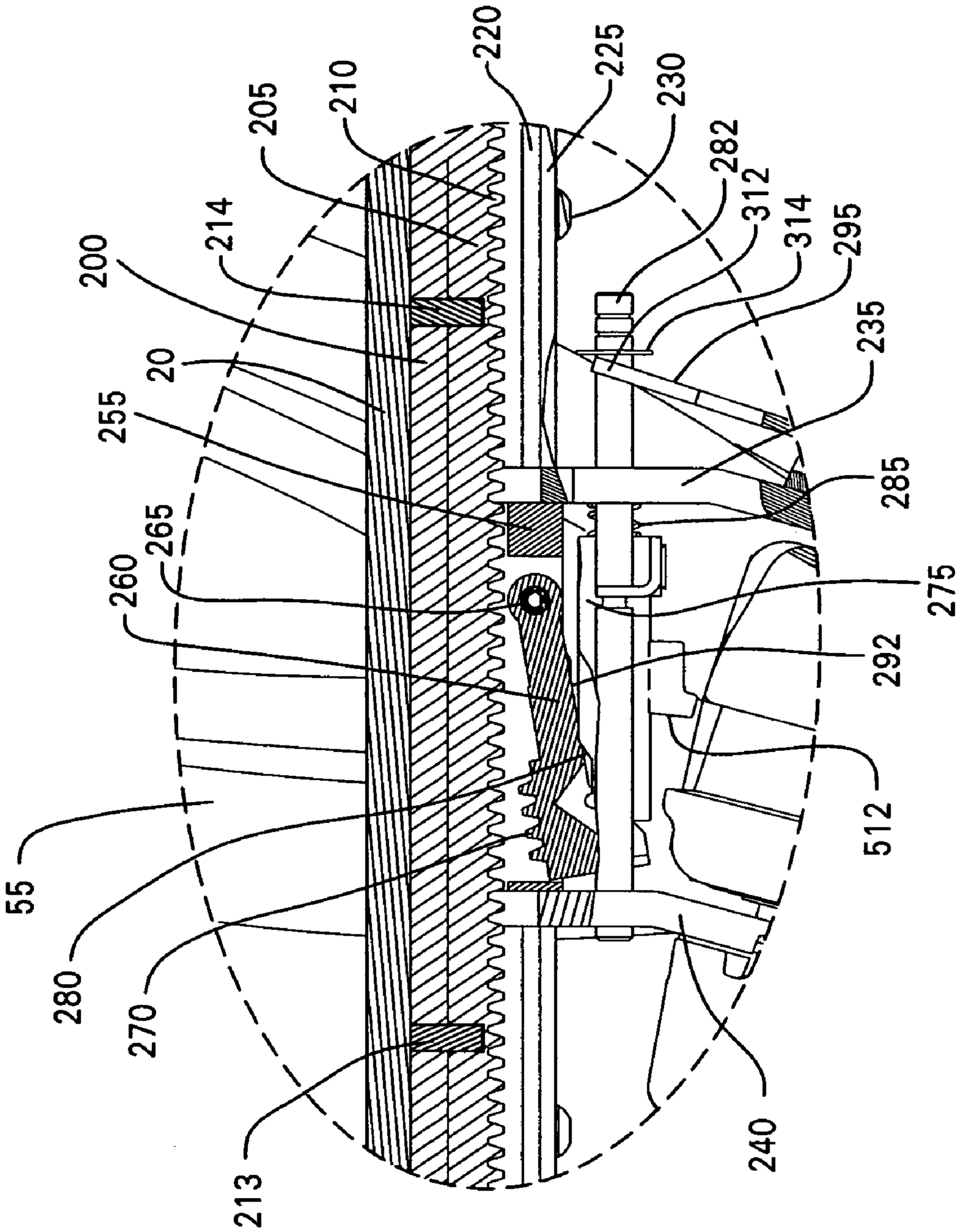
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FIG. 9B

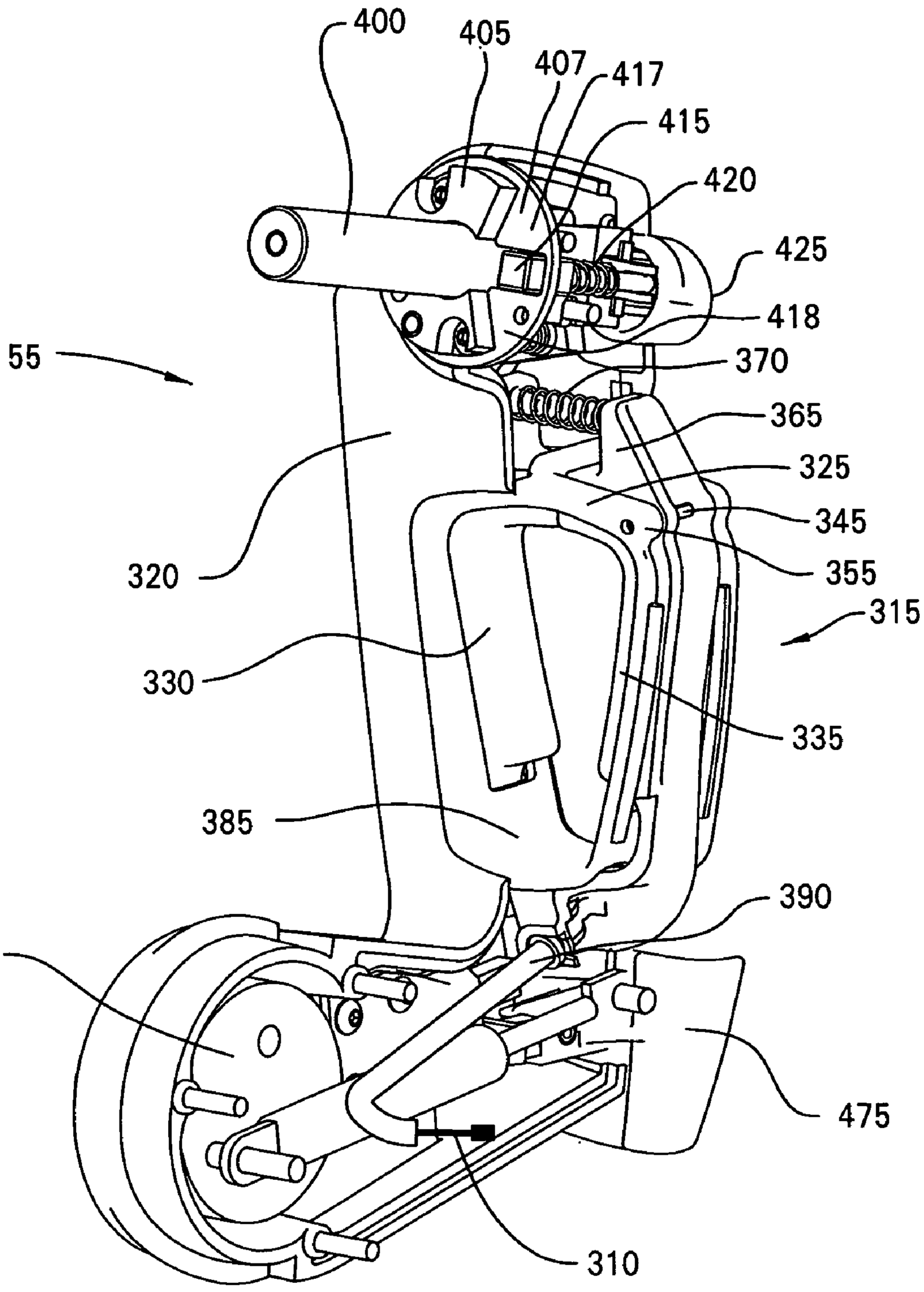
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FIG. 10

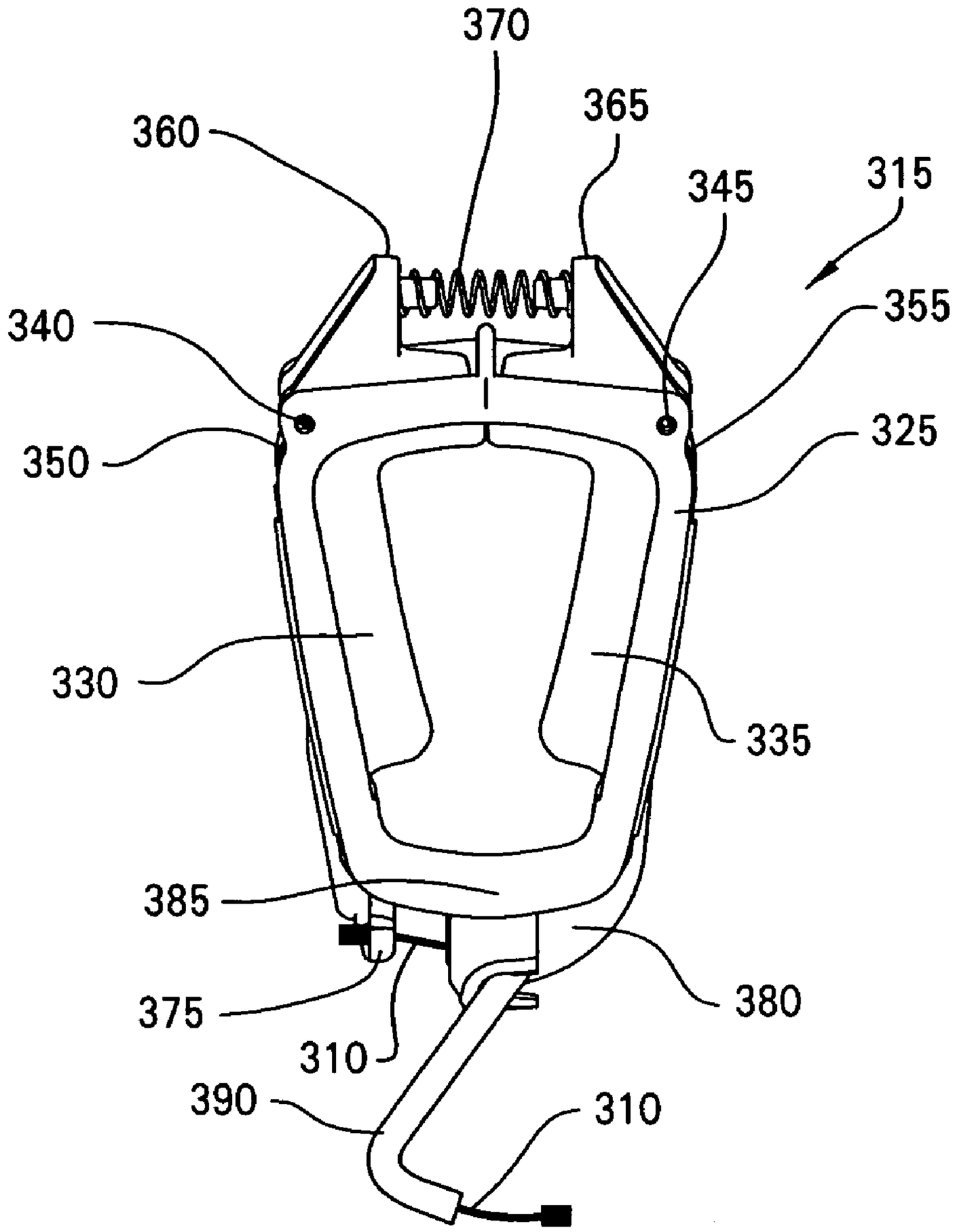
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FIG. 11

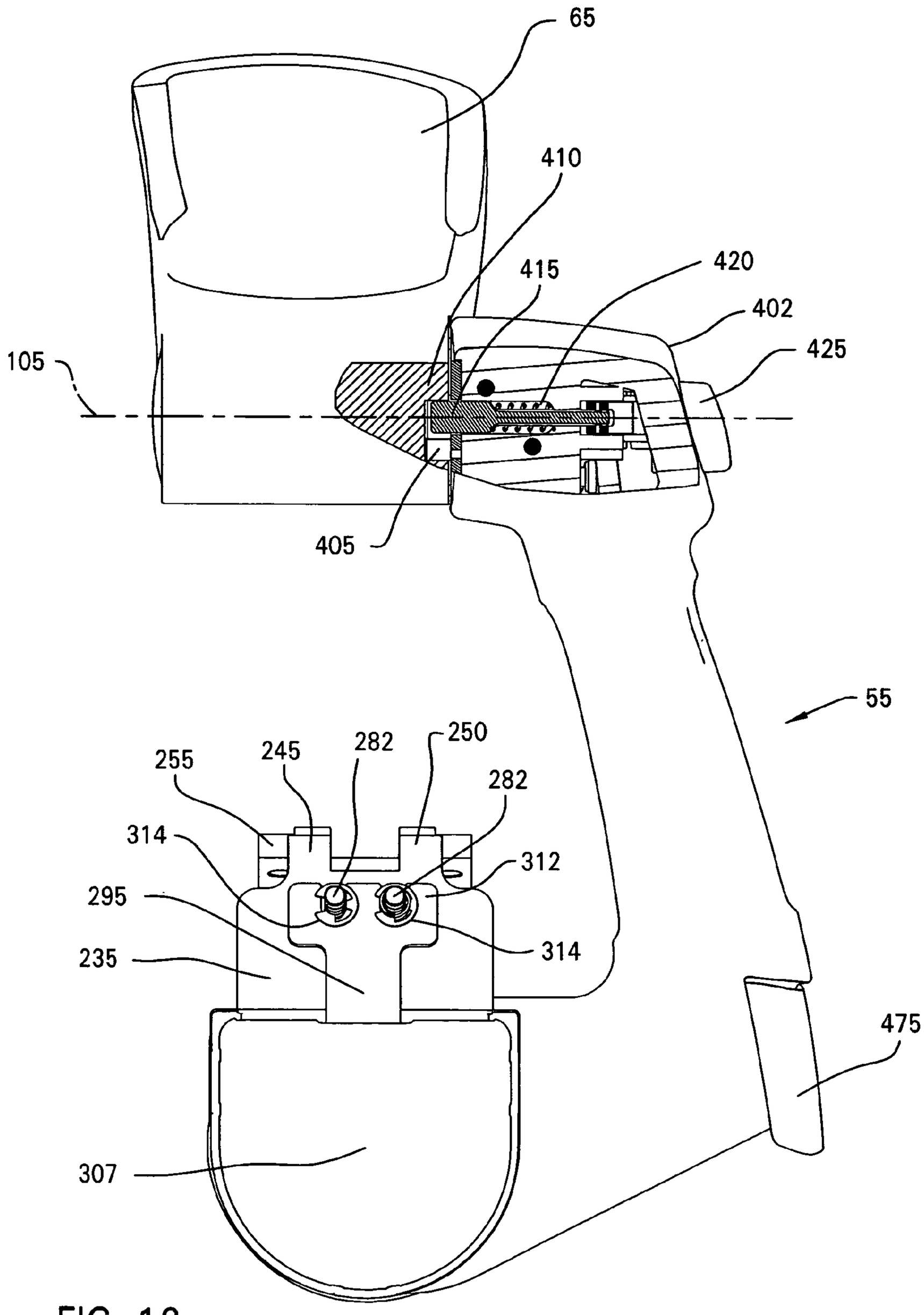
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FIG. 12

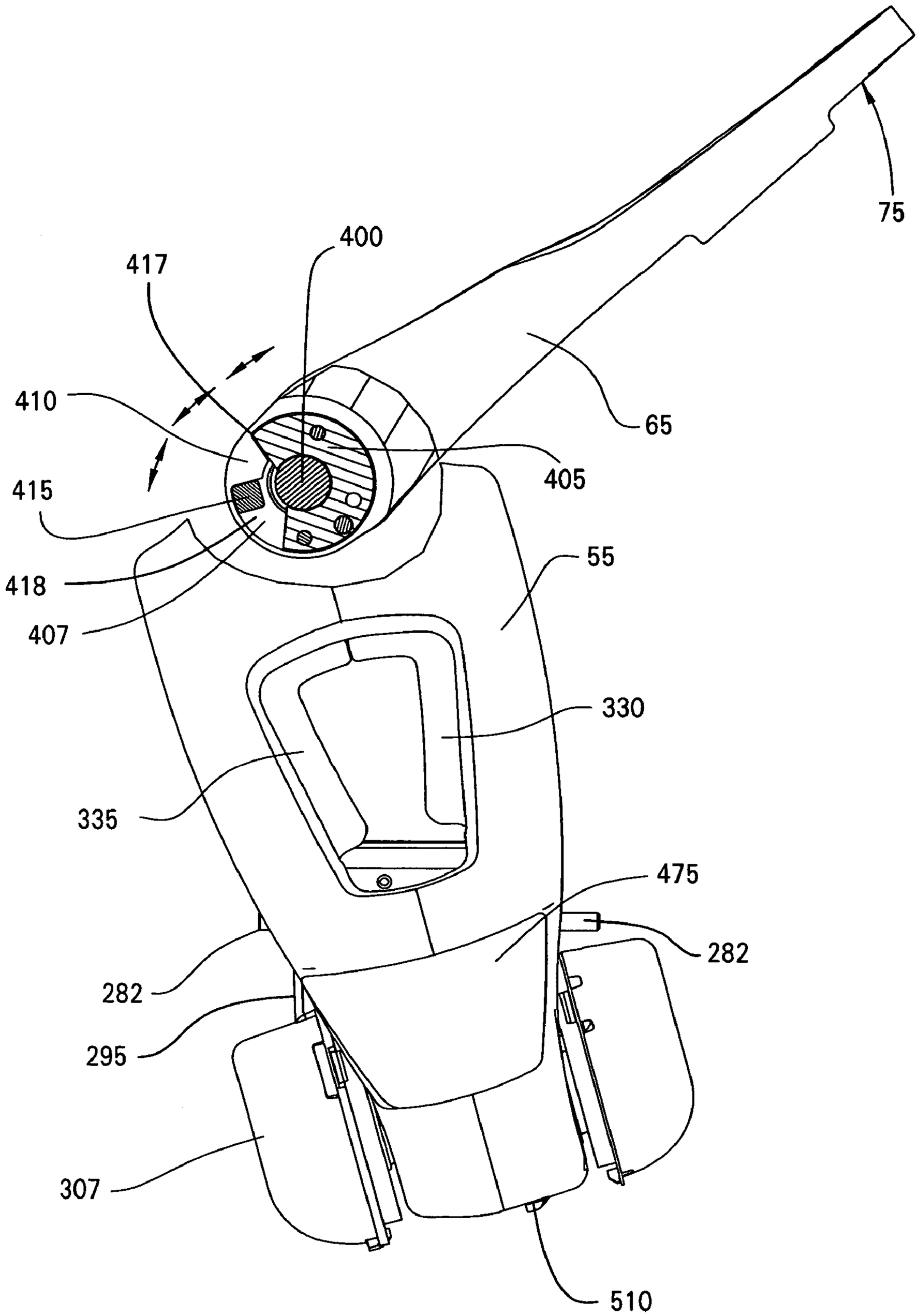
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FIG. 13

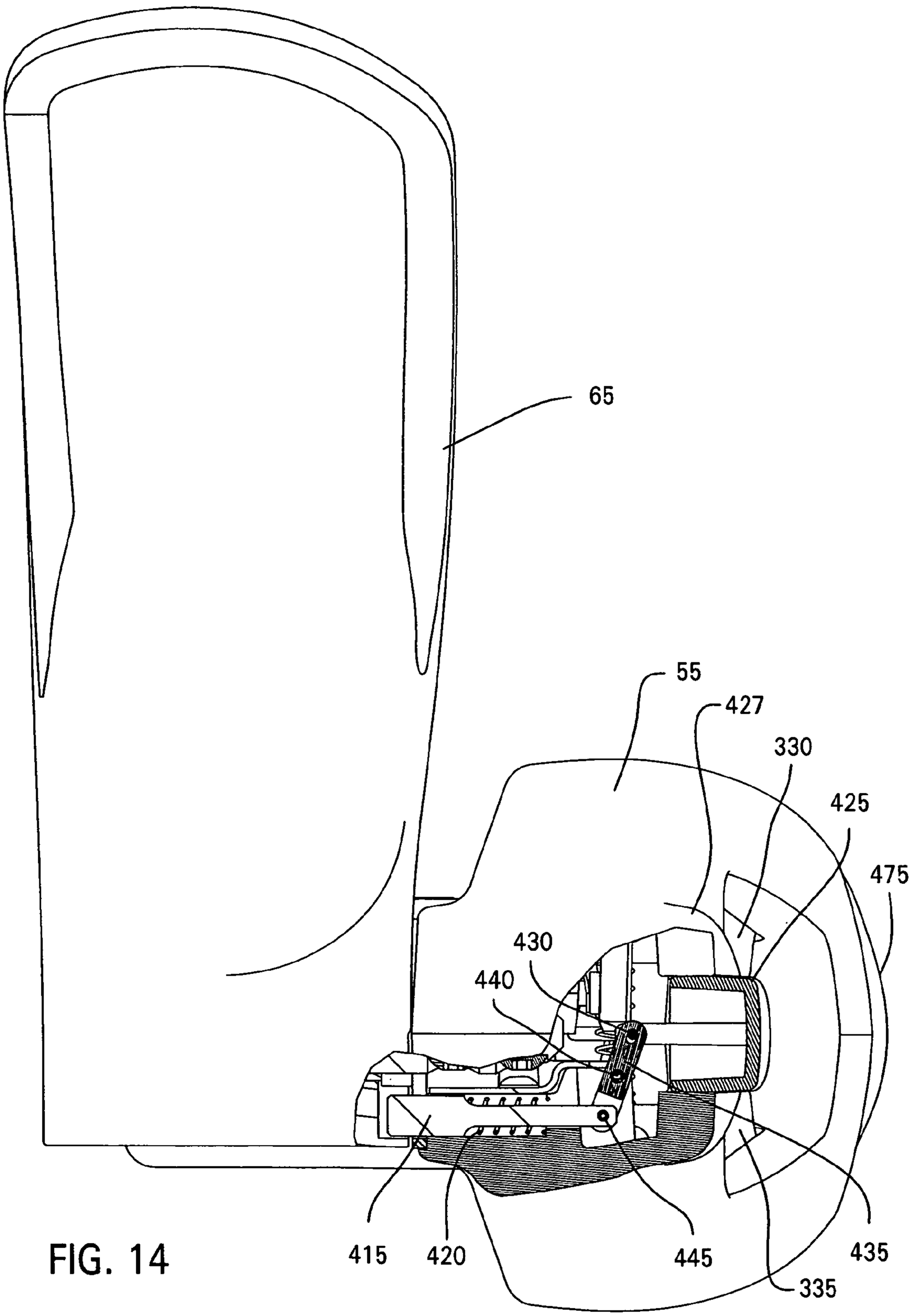


FIG. 14

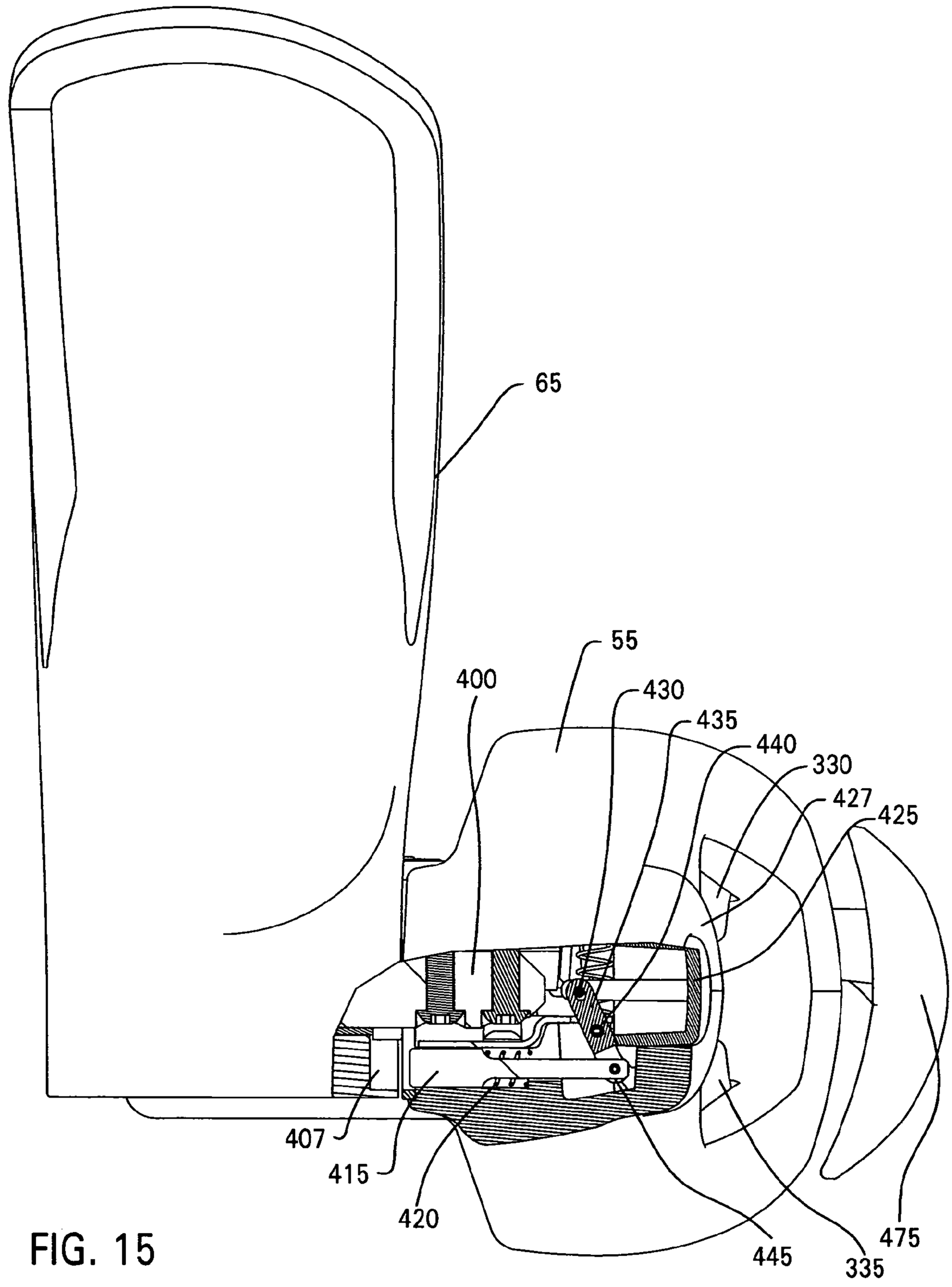


FIG. 15

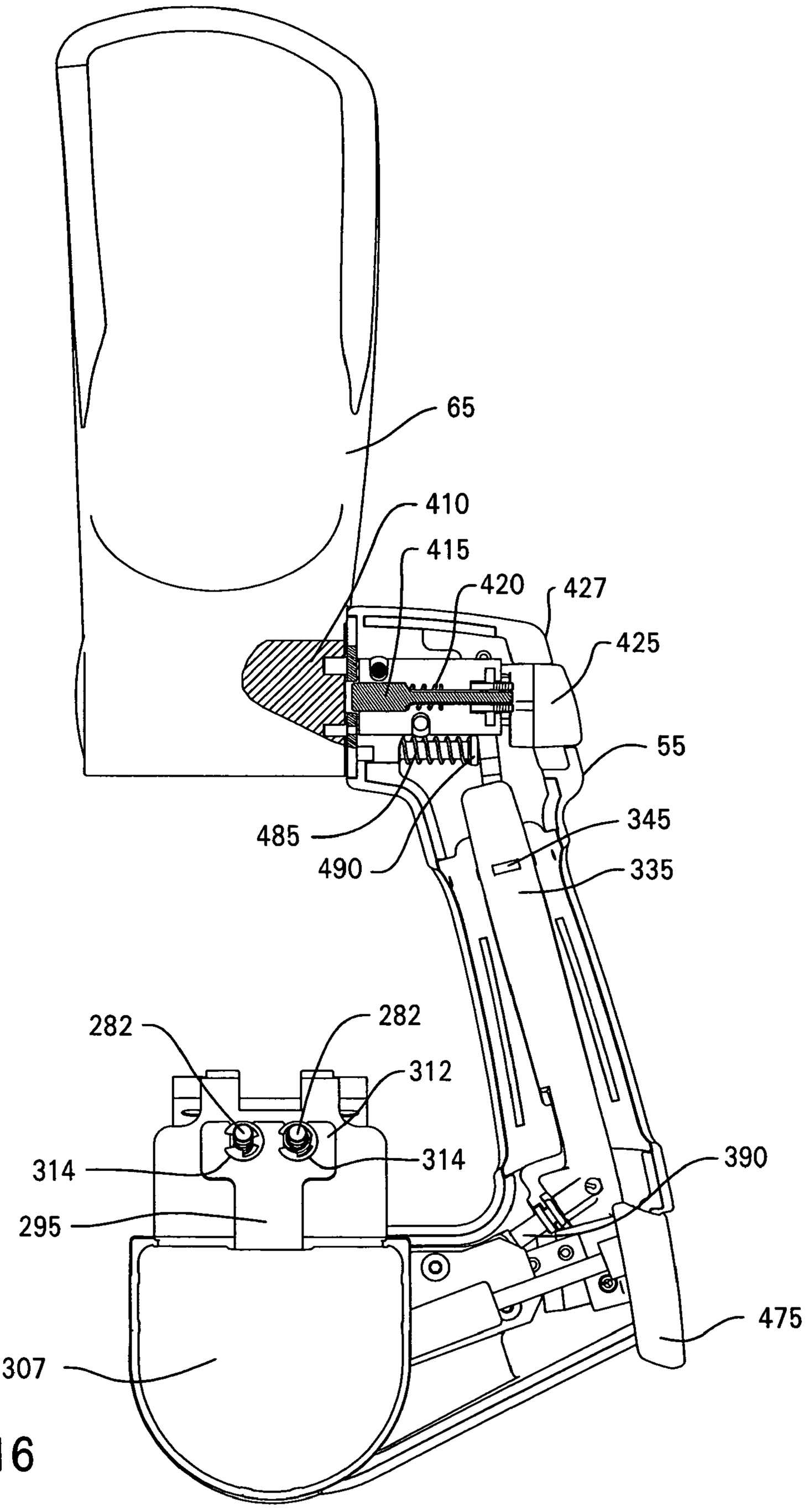
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FIG. 16

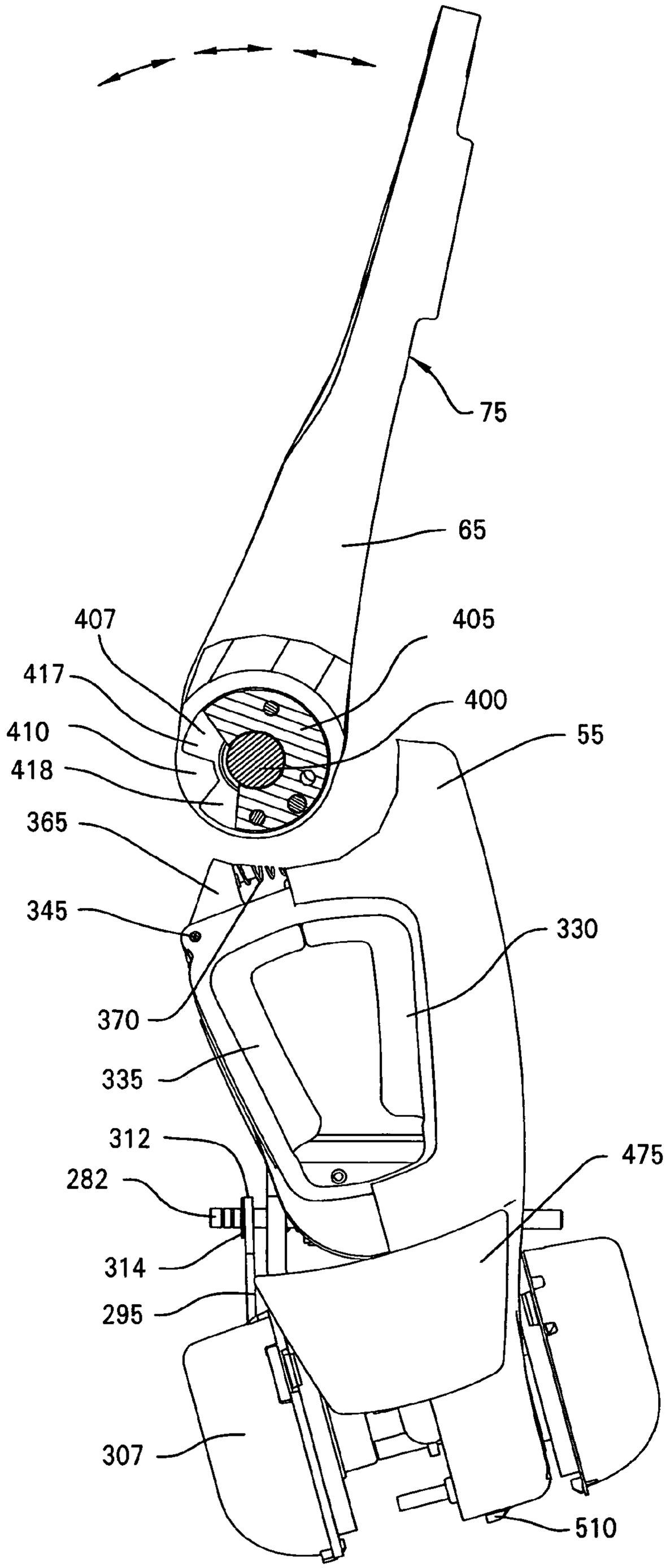
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FIG. 17

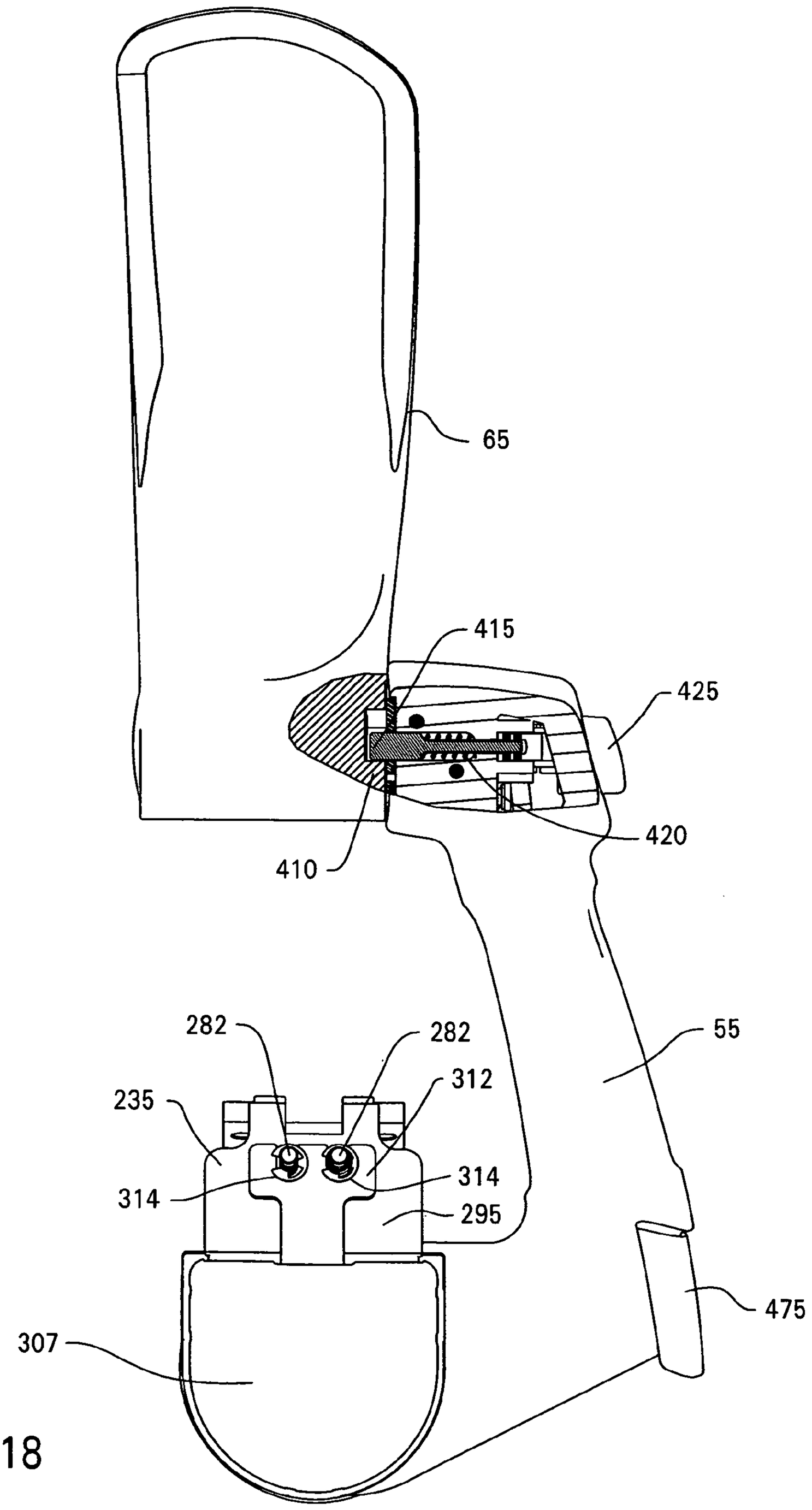


FIG. 18

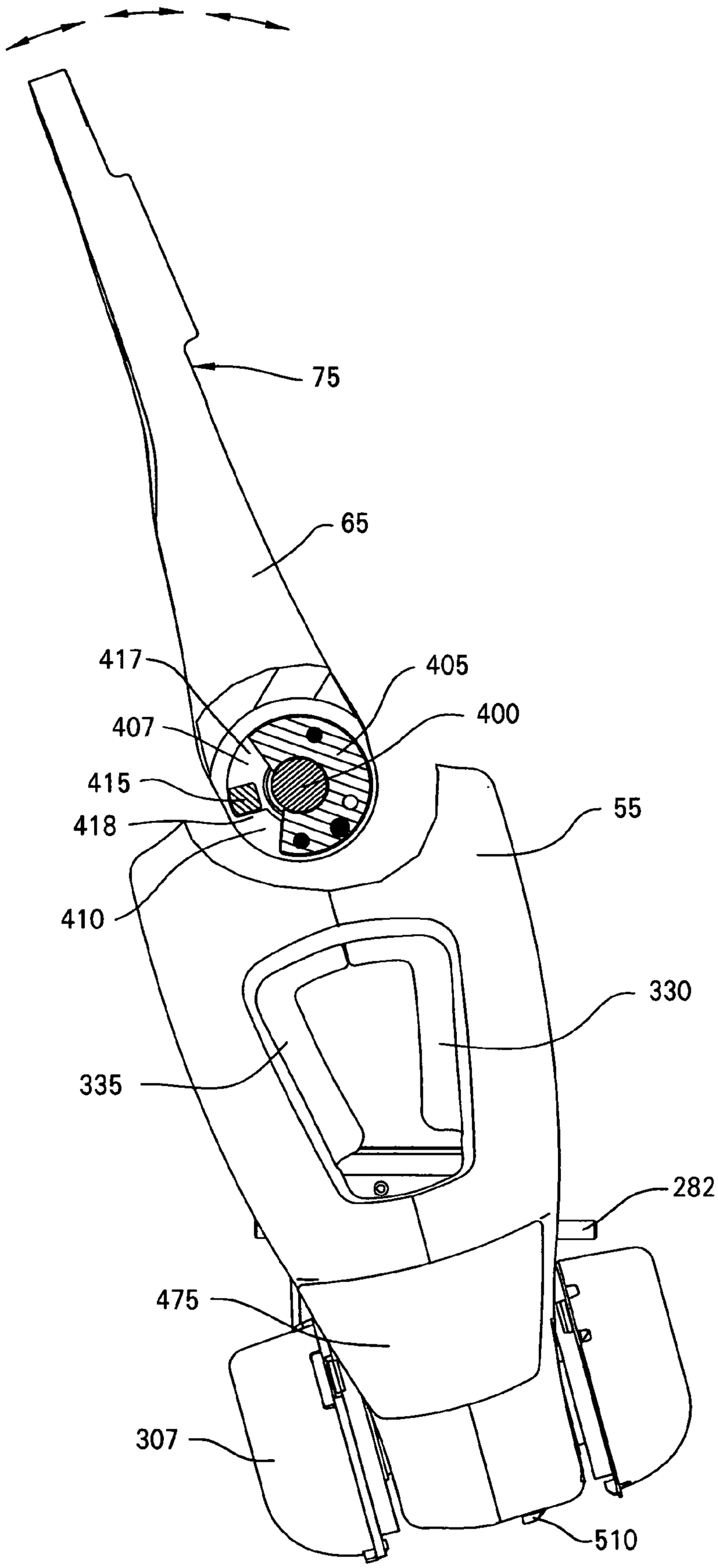


FIG. 19

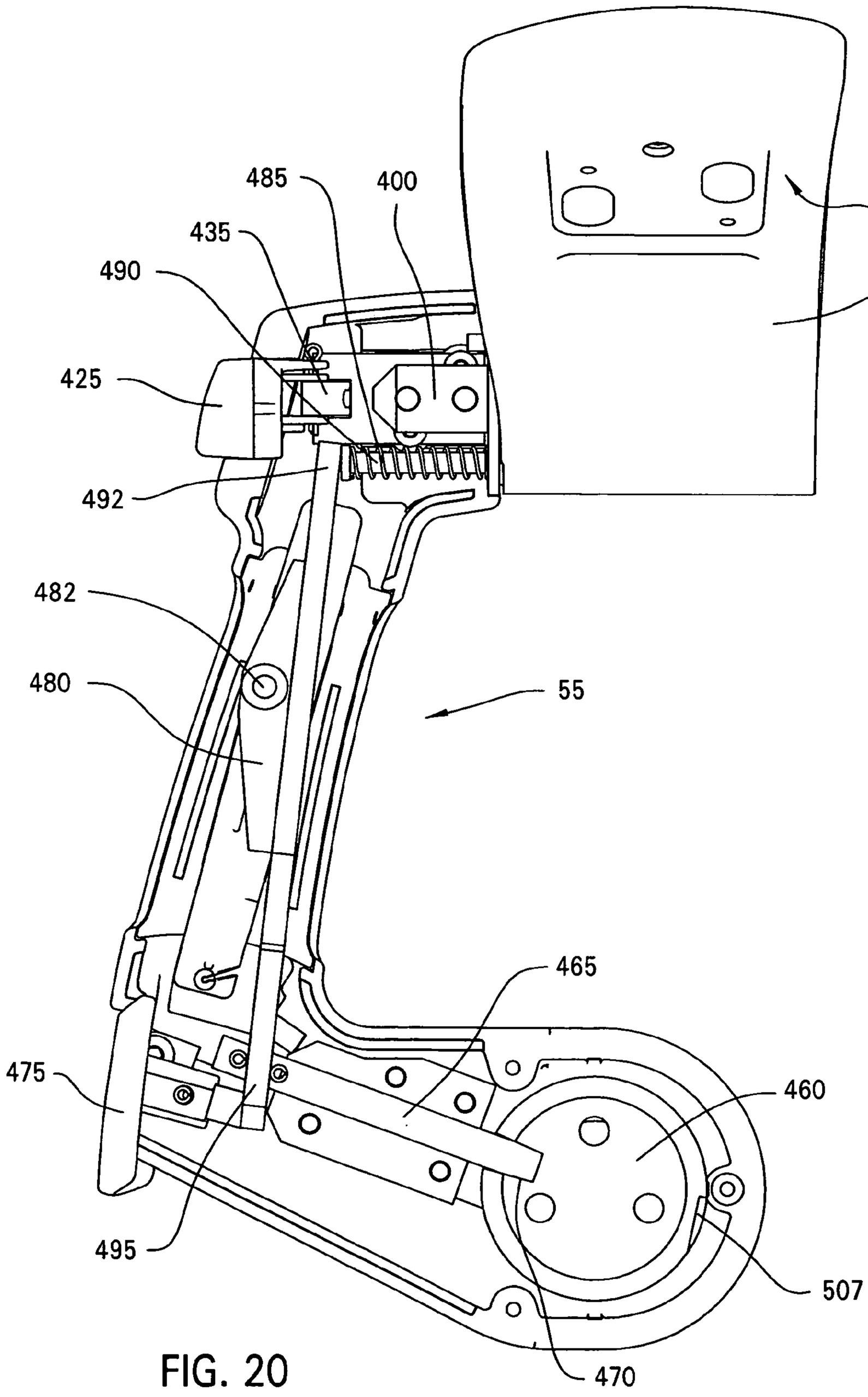


FIG. 20

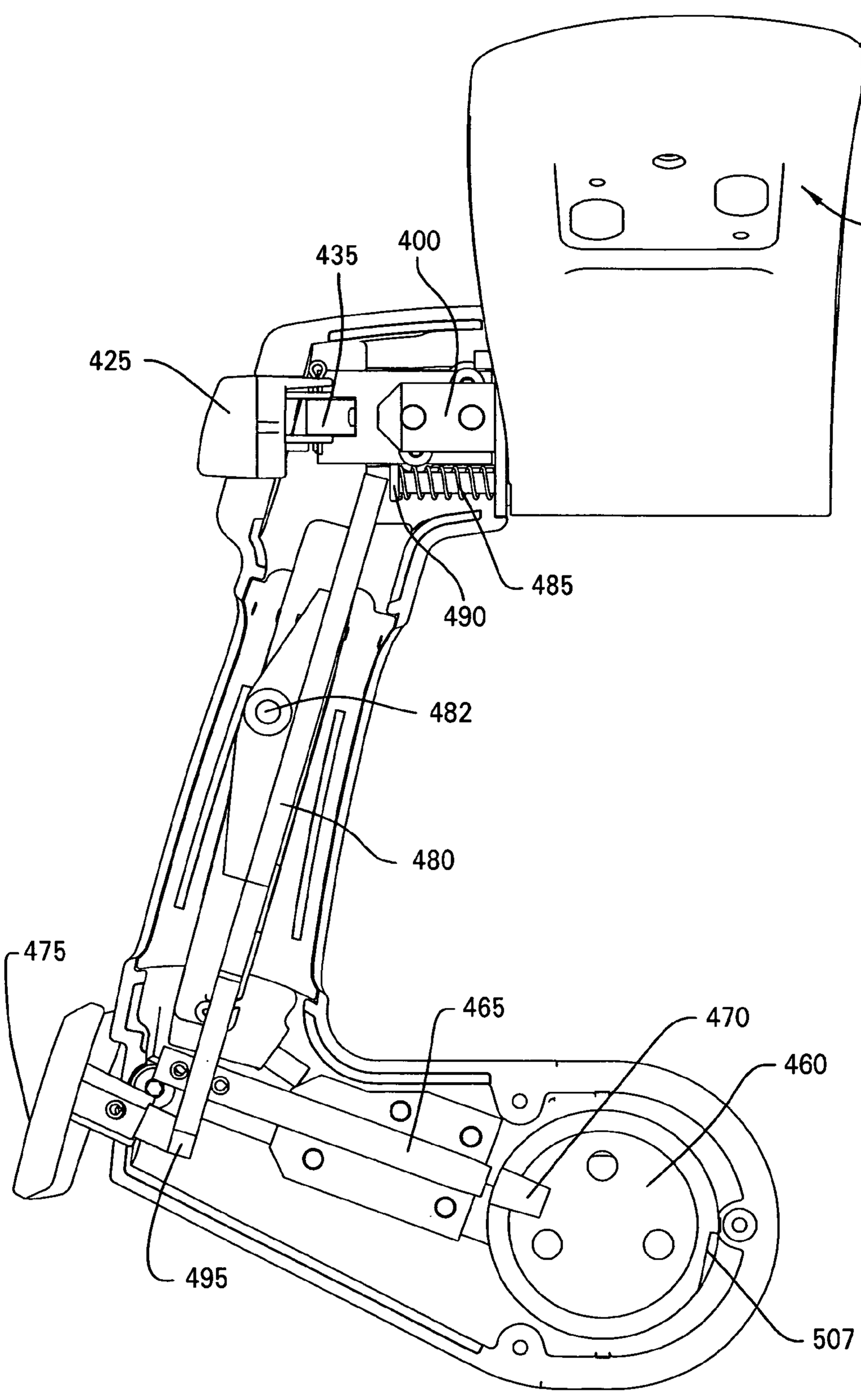


FIG. 21

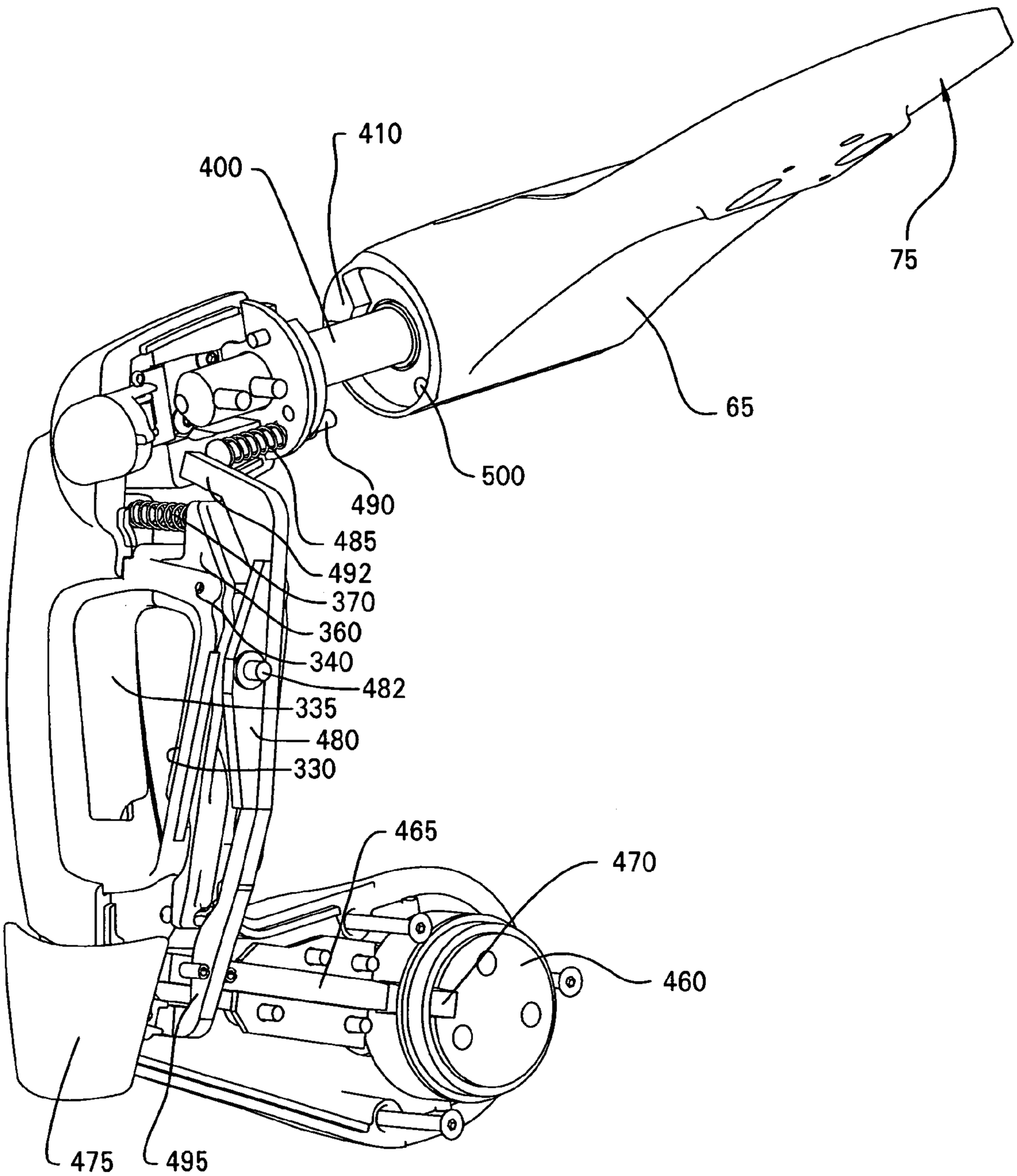
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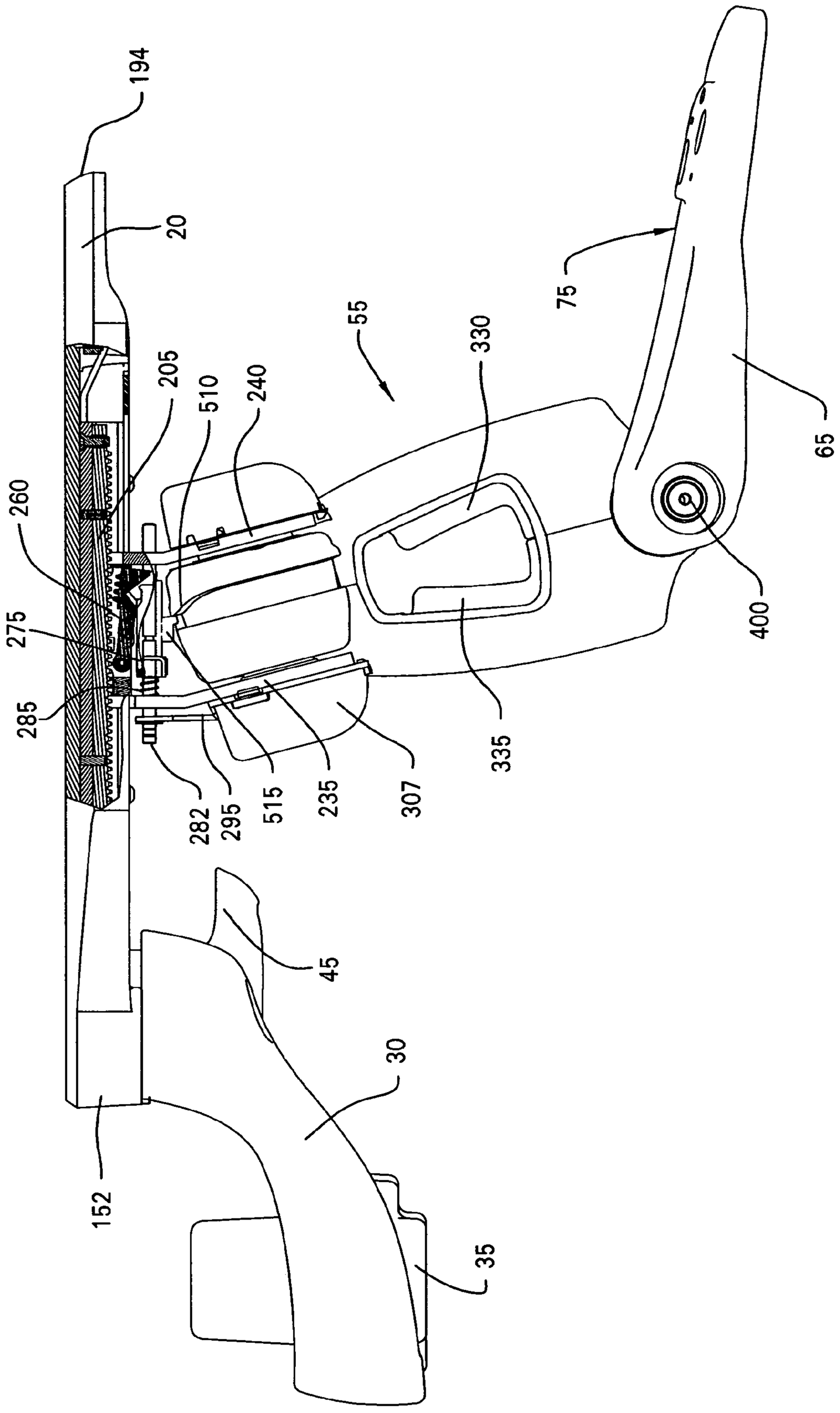
FIG. 22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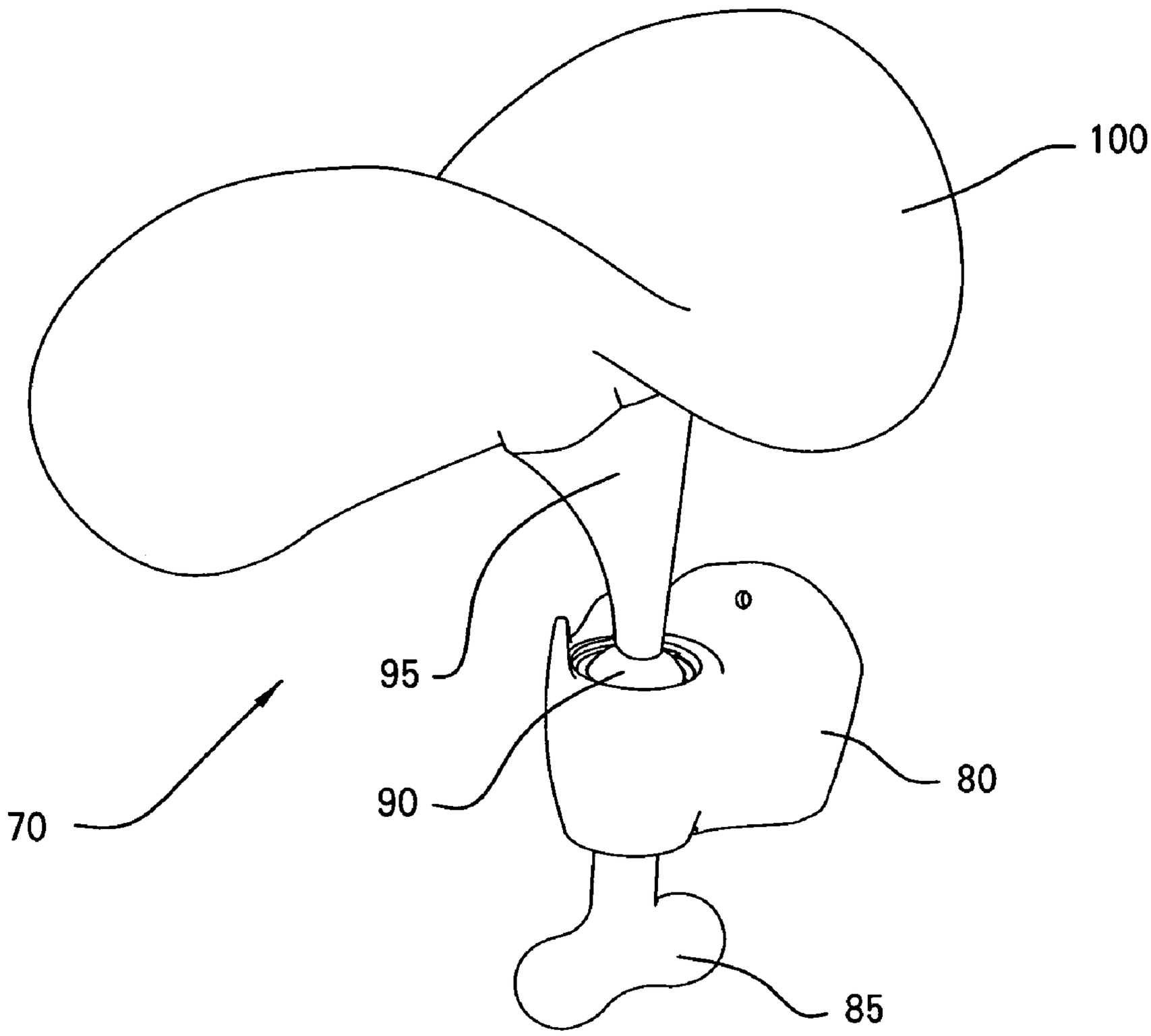
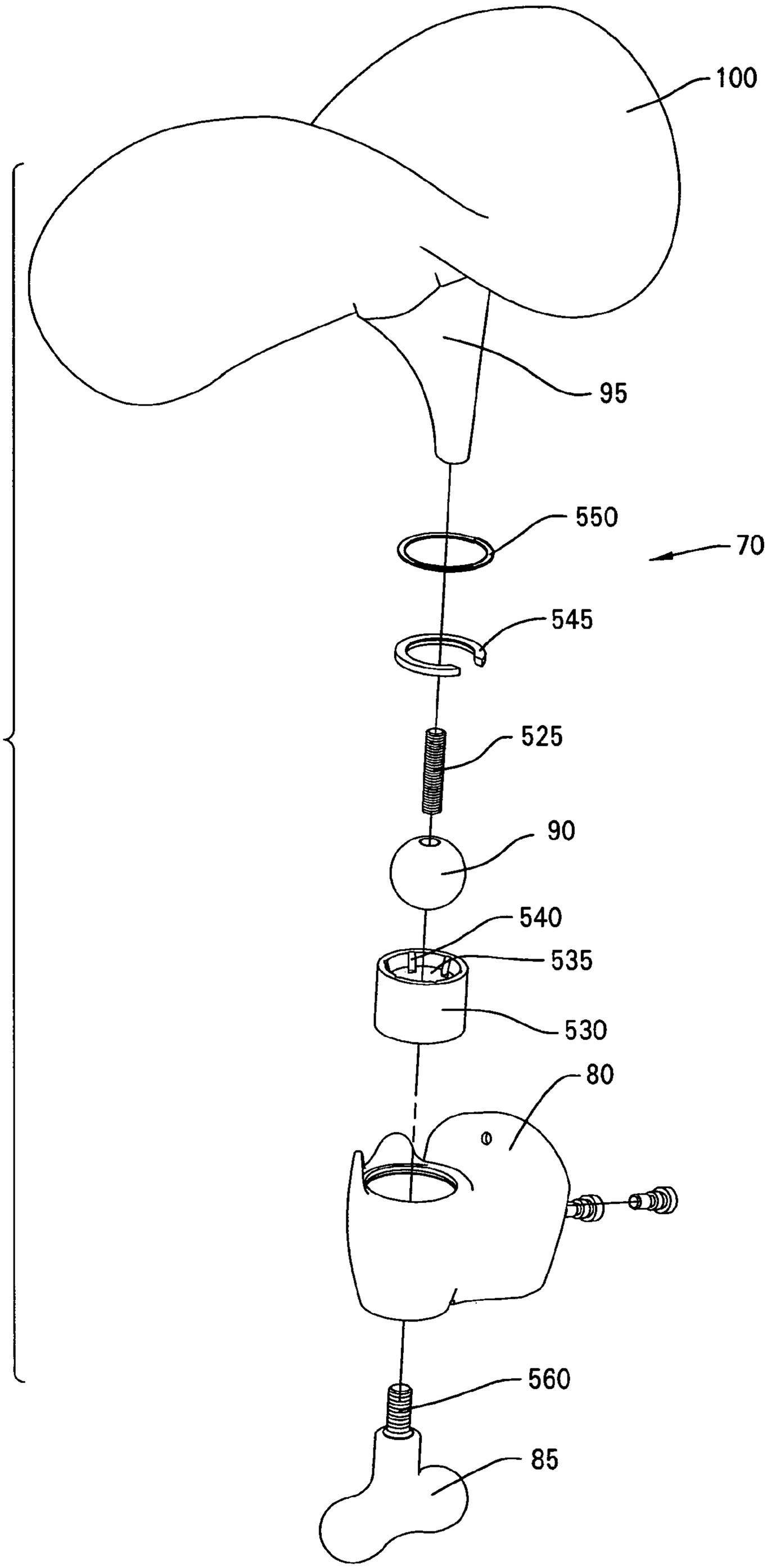



FIG. 24

FIG. 25



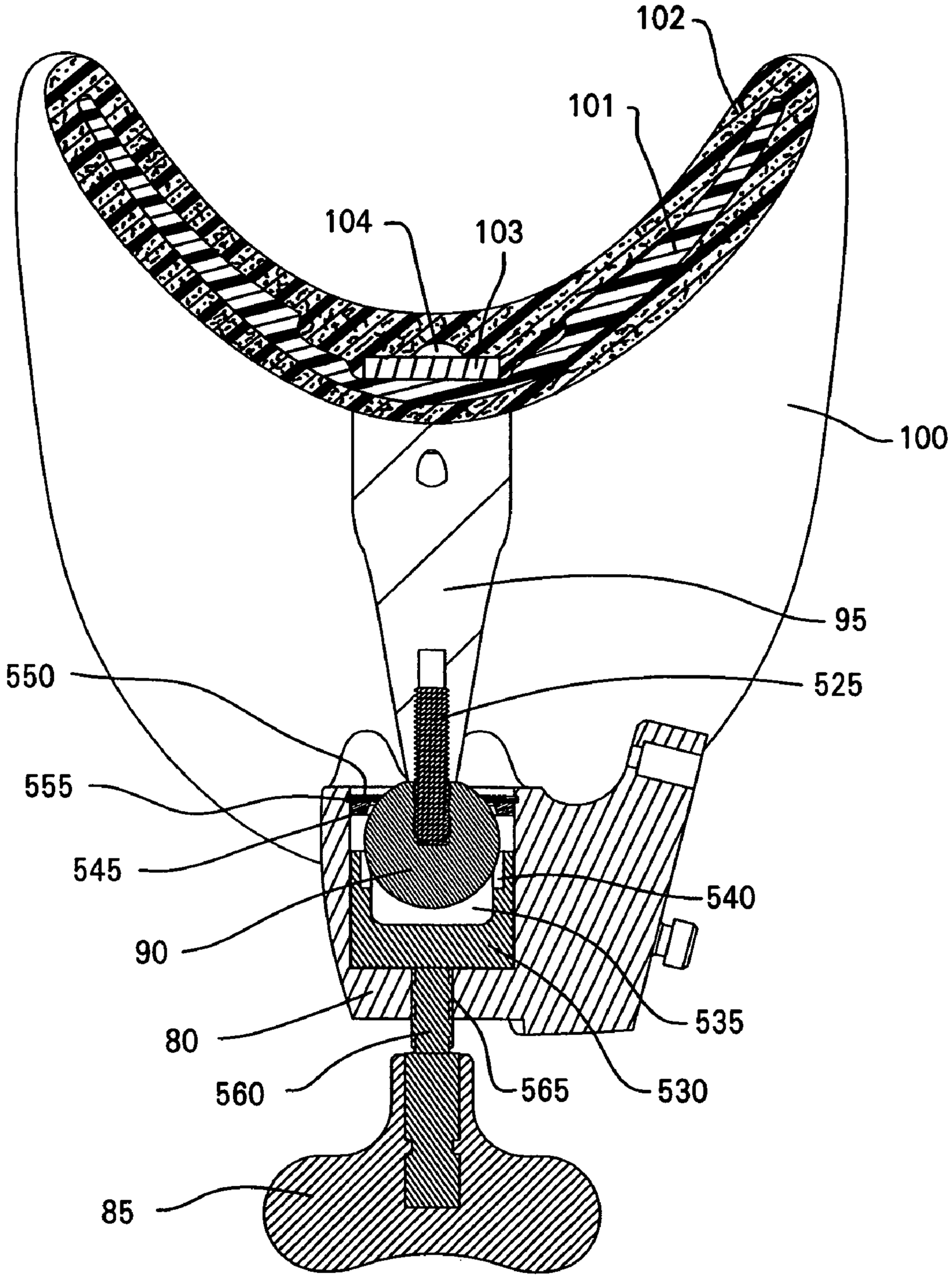

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FIG. 26

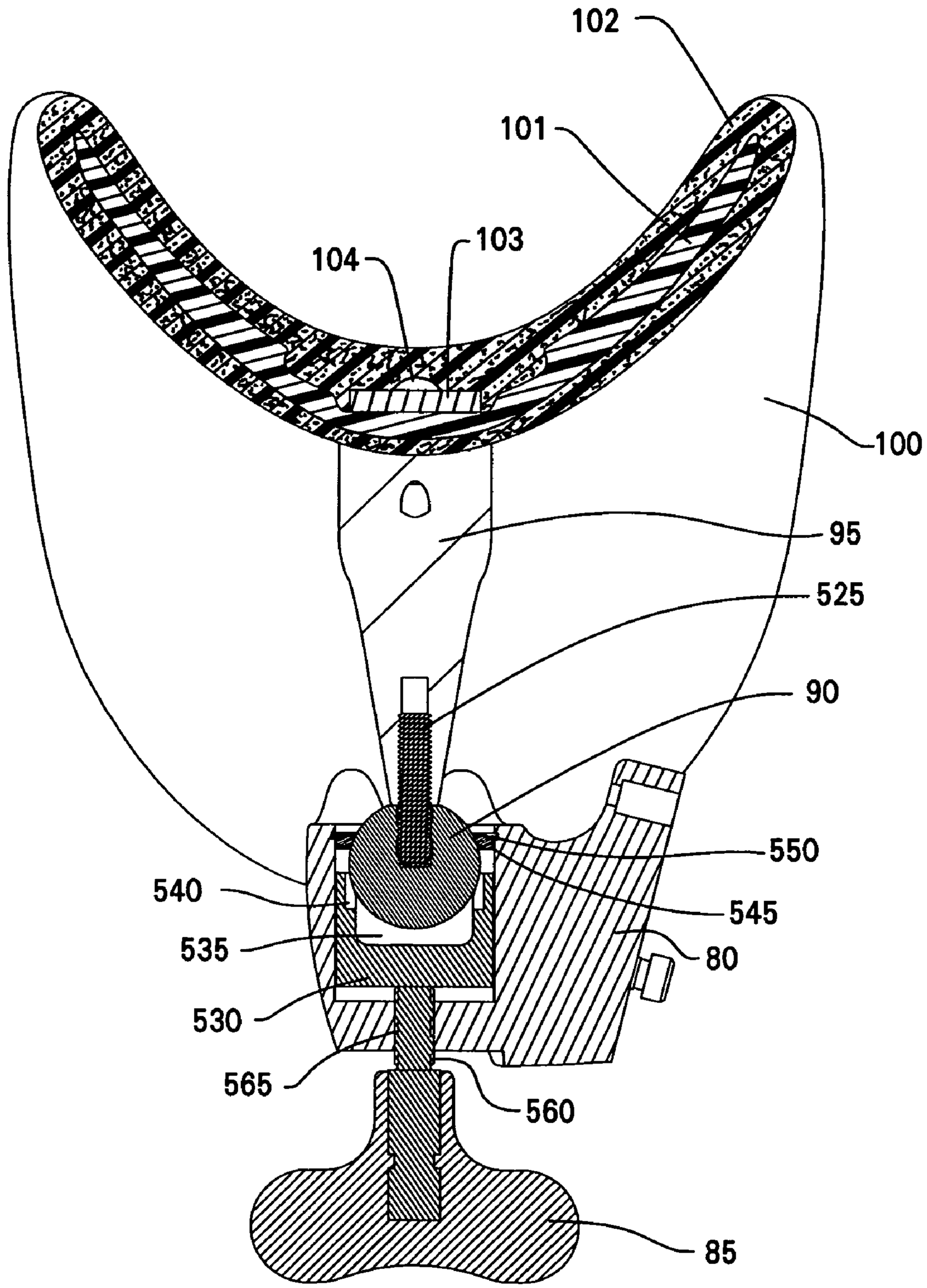


FIG. 27

# MATERNITY BED FOOT SUPPORT AND ABDUCTION ASSEMBLY

## FIELD OF THE INVENTION

The invention relates to hospital beds and, more particularly, to a foot support and abduction assembly for a maternity bed, designed to ease the birthing process for both the mother and the medical personnel that are assisting her.

## BACKGROUND OF THE INVENTION

An example of a foot support and abduction assembly can be found in U.S. Pat. No. 5,926,878, wherein the foot support and abduction assembly are mounted proximate a leg-foot section of a maternity bed. The foot support is rotatably mounted to an upright support and is rotatable from a first, use position to a second position wherein a leg support mounted on the back of the foot support is deployed to a use position. The upright support is rotatably and slidably mounted to an abductor and is rotatable from the upright, use position to an under-bed stowed position. The abductor is rotatably mounted to the maternity bed. Each movement of one of these elements requires release of a locking mechanism configured to secure the element in a selected position. Each release for a locking mechanism and movement of an element requires a two-handed operation by the attendant.

When the upright support, with attached foot support, is in the under-bed, stowed position, it has been found advantageous to have the sliding connection between the abductor and the upright support unlocked so that the upright support can be moved easily, or will give way if struck by hospital equipment or attendants. The attendant must remember to unlock the sliding mechanism when stowing the upright support.

It would be advantageous to provide integrated locking mechanisms for each element of the foot support and abduction assembly configured for one-handed unlocking and moving of the element by the attendant. It would be further advantageous to provide an automatic unlocking of the upright support sliding mechanism when in the stowed position.

## SUMMARY OF THE INVENTION

A foot support and abduction assembly includes an abductor configured for pivotal attachment proximate a foot end of a maternity bed. The foot support is configured for locating in a stowed position below the abductor, and a calf support is attached to an undersurface of the foot support. An upright assembly has a first end that is secured to the abductor for longitudinal movement along a length of the abductor, a second end to which the foot support is movably mounted, and a locking mechanism for selectively securing the upright assembly in one of a plurality of positions along the length of the abductor. The upright assembly is further configured for movement from a deployed position to a stowed position, and the locking mechanism is unlocked when the upright assembly is in the stowed position.

## BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of a maternity bed foot support and abduction assembly according to the invention;

FIG. **2** is a perspective view according to FIG. **1** with an attached calf support assembly;



FIG. **3** is a perspective view of the abduction assembly according to FIGS. **1**–**2**;

FIG. **4** is an exploded perspective view of the abduction assembly of FIG. **3**;

FIG. **5** is a bottom view of the abduction assembly of FIGS. **3**–**4**;

FIG. **6** is a bottom view of the abduction assembly according to FIGS. **3**–**5** with gear rack installed;

FIG. **7** is a perspective view of the foot support and abduction assembly according to FIGS. **1**–**6**;

FIG. **8**A is a partial cut-away side view of the foot support and abduction assembly according to FIGS. **1**–**7** in a locked position;

FIG. **8**B is an enlarged detail view according to FIG. **8**A;

FIG. **9**A is a partial cut-away side view of the foot support and abduction assembly of FIGS. **1**–**8** in an unlocked position;

FIG. **9**B is an enlarged detail view according to FIG. **9**A;

FIG. **10** is a partial cut-away perspective view of an upright assembly for the foot support of FIGS. **1**–**9**;

FIG. **11** is a partial cut-away side view of a handle of the upright assembly of FIG. **10**;

FIG. **12** is a partial cut-away end view of the upright assembly of FIGS. **10**–**11**;

FIG. **13** is a partial cut-away side view of the upright assembly of FIGS. **10**–**12**;

FIG. **14** is a partial cut-away plan view of the upright assembly of FIGS. **10**–**13** with the foot support in a locked position;

FIG. **15** is a partial cut-away plan view of the upright assembly of FIGS. **10**–**14** with the foot support in an unlocked position;

FIG. **16** is a partial cut-away end view of the upright assembly according to FIG. **15**;

FIG. **17** is a partial cut-away side view of the upright assembly according to FIGS. **15**–**16**;

FIG. **18** is a partial cut-away end view of the upright assembly of FIGS. **10**–**17** with the foot support in a second deployed position;

FIG. **19** is a partial cut-away side view according to FIG. **18**;

FIG. **20** is a partial cut-away end view of the upright assembly according to FIGS. **10**–**19** with the upright assembly in a locked position;

FIG. **21** is a partial cut-away end view of the upright assembly according to FIGS. **10**–**20** with the upright assembly in an unlocked position;

FIG. **22** is a partial cut-away perspective view of the upright assembly according to FIG. **21**;

FIG. **23** is a partial cut-away side view of the abduction assembly of FIGS. **1**–**22** with the upright assembly in a stowed position;

FIG. **24** is a perspective view of a calf support for attachment to the foot support of FIGS. **1**–**23**;

FIG. **25** is an exploded perspective view of the calf support of FIG. **24**.

FIG. **26** is a partial cut-away end view of the calf support of FIGS. **24**–**25** in an unlocked position; and

FIG. **27** is a partial cut-away end view of the calf support of FIGS. **24**–**26** in a locked position.

## DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Certain terminology will be used in the following description for convenience and reference only, and will not be limiting. For example, the words "upwardly", "down-

wardly", "rightwardly" and "leftwardly" will refer to directions in the drawings to which reference is made. The words "inwardly" and "outwardly" will refer to directions toward and away from, respectively, the geometric center of the arrangement and designated parts thereof. Said terminology will include the words specifically mentioned, derivatives thereof, and words of similar import.

Referring to FIG. **1**, a maternity bed foot support and abduction assembly **10** is illustrated. The maternity bed foot support and abduction assembly **10** comprises a left abductor **15** and a right abductor **20**, each pivotally attached to a respective stanchion **25**, **30** formed as part of a bed foot lift casting **35** (shown in phantom). The bed foot lift casting **35** is configured for mounting to a foot end of a maternity bed (not shown). The bed foot lift casting **35** further includes a pair of integrally formed foot end support mounts **40**, **45** configured for attaching a removable foot section of the maternity bed as disclosed in U.S. patent application Ser. No. 11/004,703, entitled "PATIENT SUPPORT APPARATUS WITH REMOVABLE FOOT SECTION", filed Dec. 3, 2004, incorporated herein by reference.

An upright assembly **50**, **55** is pivotally attached to each of the abductors **15**, **20** and pivotally supports a foot support **60**, **65**. As shown in FIG. **1**, the upright assemblies **50**, **55** are configured to pivot from an upright use orientation to a stowed orientation (shown in phantom) under the respective abductor **15**, **20**.

Further description of the maternity bed foot support and abduction assembly **10** will refer in detail to the right abductor **20** and pivotally supported upright assembly **55** and foot support **65**. It is to be understood that the details of construction also apply to the left abductor **15** and associated upright assembly **50** and foot support **60**, reversed as necessary for operating on the opposite side of the maternity bed.

Referring to FIG. **2**, a calf support assembly **70** is mounted to a reverse side **75** of the foot support **65**. The calf support assembly **70** includes a mounting housing **80**, a locking handle **85**, a phenolic ball **90**, a stanchion **95** and a calf support **100**. The calf support **100** is configured for swivel adjustment relative to the housing **80**. As will be further described below, the foot support **65** is pivotally mounted about a pivot axis **105** from a first position shown in FIG. **2**, wherein the foot support **65** is directed toward a patient in the maternity bed, and a second position (not shown) wherein the foot support **65** is rotated toward the patient to present the calf support assembly **70** for use. In the remaining illustrations, the calf support assembly **70** has been omitted for clarity.

Referring to FIGS. **3**–**5**, the abductor **20** is pivotally mounted to the stanchion **30** of the bed foot lift casting **35** about a pivot axis **110**. The abductor **20** is mounted to the stanchion **30** by a pivot shaft **115** having a threaded section **120**. A pair of thrust bearings **125**, **130** and washers **127**, **132** are received on the pivot shaft **115** and threaded section **120**, and secured by a nut **135** to enable the abductor **20** to rotate freely on the stanchion **30**. The stanchion **30** further includes a ring gear **140** rotatably secured thereto having a plurality of teeth **145**.

Referring to FIG. **5**, the ring gear **140** is shown received in a cylindrical recess **150** within a proximal end **152** of the abductor **20**. A latch member **155** having a plurality of teeth **160** is pivotally mounted by a pin **165** to the abductor **20**. A locking cam **170** pivotally mounted to the abductor **20** by a pivot pin **175** is biased by a spring **180** to force the latch member **155** into engagement with the ring gear **140**. The cam **170** is connected by a pull rod **185** to an abductor release handle **190** pivotally mounted to the abductor **20** by a pivot pin **192**. The abductor release handle **190** is positioned at a distal end **194** of the abductor **20**.

Referring to FIG. **6**, actuation of the handle **190** draws the locking cam **170** away from the latch member **155**. A spring **195** then draws the latch member **155** away from the ring gear **140** so that the teeth **145** of the ring gear **140** are no longer engaged with the teeth **160** of the latch member **155**. With the teeth **145**, **160** disengaged, the abductor **20** is free to pivot about the axis **110** on the stanchion **30**. The springs **180**, **195** are selected so that when the handle **190** is released, the spring **180** will overcome the spring **195** to urge the latch member **155** into engagement with the ring gear **140**.

The abductor **20** further includes a rack assembly **200** including a longitudinal rack **205** having a plurality of teeth **210**. The rack assembly further includes a pair of longitudinal tracks **215**, **220**. The rack assembly **200** is secured to the underside of the abductor **20** by a bottom cover **225**, secured by a plurality of fasteners **230**. The rack assembly **200** is configured for slidably receiving the upright assembly **55** (FIG. **7**). The rack section **205** is secured to the rack assembly **200** by a pair of fasteners **211**, **212** and a pair of pins **213**, **214** (FIG. **8**A).

Referring to FIGS. **8**A–**8**B, a partial cut-away view of the abductor **20** and upright assembly **55** is illustrated. The upright assembly **55** is slidably mounted to the abductor **20** and the rack assembly **200** by a pair of plates **235**, **240**. Plates **235**, **240** include flanges **245**, **250** (see FIG. **12**) for straddling the rack **205**. A mounting assembly **255** is fixed between the plates **235**, **240** for engaging the tracks **215**, **220** and the rack **205**.

The mounting assembly **255** includes a locking arm **260** pivotally mounted by a pin **265** and including a plurality of teeth **270** configured for engaging the teeth **210** of the rack **205**. The locking arm **260** is held upwardly and in engagement with the rack **205** by a cam wedge **275** having a locking projection **280**. The cam wedge **275** is mounted on cam wedge rods **282** and is urged into a locked position of the locking arm **260** by a spring **285** bearing between the cam wedge **275** and the side plate **235**.

Referring to FIGS. **9**A–**9**B, to disengage the locking arm **260**, the cam wedge **275** must be drawn to the right against the bias of the spring **285**. As the cam wedge **275** is drawn to the right, the back surface **292** of the locking arm **260** rides down the canted upper surface **280** of the cam wedge **275**, permitting the locking arm **260** to disengage from the rack **205**. The cam wedge rods **282** are drawn to the right against the bias of spring **285** by a lever arm **295** pivoting about a pin **300**. A distal end **305** of the lever arm **295**, concealed within housing **307**, is engaged by a cable **310** for drawing the distal end **305** to the left and pivoting the lever arm **295** about the pin **300**. A proximal end **312** of the lever arm **295** is shifted to the right and bears against snap rings **314**, drawing the cam wedge rods **282** and the cam wedge **275** to the right. With the locking arm **260** disengaged from the rack **205**, the upright assembly **55** is free to translate longitudinally on the abductor **20**.

Referring now to FIGS. **10**–**11**, the cable **310** is actuated by a handle assembly **315** received in the housing **320** of the upright assembly **55**. The handle assembly **315** includes an oblong frame **325** having a first handle **330** and a second handle **335** each pivotally attached by a pin **340**, **345** to a respective upper corner **350**, **355** of the oblong frame **325**. Upper lever portions **360**, **365** of the first and second handles **330**, **335** are urged apart by a compression spring **370**. This urges a lower lever portion **375** of the first handle **330** and

a lower lever portion **380** of the second handle **335** together at a lower extent **385** of the frame **325**. An end of the cable **310** is secured to the lower lever portion **375** of the first handle **330** and a sheath **390** of the cable **310** is affixed to the lower lever portion **380** of the second handle **335**. As an operator squeezes either the first handle **330** or the second handle **335**, the separation distance between the lower lever portion **375** of the first handle **330** and the lower lever portion **380** of the second handle **335** increases, forcing the cable **310** to be retracted within the sheath **390**. As a consequence, the distal end **305** of the lever arm **295** is drawn in by the cable **310**, thereby releasing the lock arm **260** to permit the longitudinal translation of the upright assembly **55** on the abductor **20**.

Referring now to FIGS. **12**–**19**, the foot support **65** is pivotally mounted on a pivot shaft **400** about the pivot axis **105** to an upper extent **402** of the upright assembly **55**. The upright assembly **55** includes a projecting wedge portion **405** (See also FIG. **10**) surrounding pivot shaft **400**, and a corresponding gap portion **407**. The foot support **65** includes a wedge portion **410** complementary to the wedge portion **405** for allowing a restricted rotation of the foot support **65** about the pivot shaft **400**. The upright assembly further includes a foot support locking pin **415** extending into the region about the wedges **405**, **410** and configured for locking the wedge **410** in one of two distinct positions.

In FIG. **13**, the foot support **65** is locked in a foot-support-use position with the wedge portion **410** trapped in an upper extent **417** of the gap portion **407** between the wedge portion **405** and the locking pin **415**. As shown in FIGS. **15**–**17**, the pin **415** is retracted allowing the wedge **410** of the foot support to travel freely in the gap portion **407** around the wedge **405**. As shown in FIG. **19**, the wedge **410** is locked in a lower extent **418** of the gap portion **407** around wedge **405** by the extended foot support locking pin **415**. The locking pin **415** is urged into the extended position by a spring **420**. The locking pin **415** is retracted by an operator depressing a push button **425** positioned on an outer face **427** of the upright assembly **55**.

The push button **425** is pivotally connected to a first end **430** of a toggle link **435** that is pivotally mounted in the upright assembly **55** by a pivot pin **440**. A second end **445** of the toggle link is pivotally connected to an end of the locking pin **415**. As best illustrated in FIGS. **14**–**15**, depressing the push button **425** forces the pin **415** to retract from engagement with the wedges **405**, **410**, thereby freeing the foot support **65** to rotate about the pivot axis **105**.

Referring now to FIGS. **20**–**22**, the upright assembly **55** is pivotally mounted to a hub **460** affixed to the side plates **235**, **240**. The upright assembly **55** is maintained in an upright position by a pin **465** slidably mounted in the upright assembly **55** being received in an aperture **470** of the hub **460**. The pin **465** is retractable from the aperture **470** of the hub **460** by operation of a stow-lever handle **475** and stow link **480**. The stow link **480** is urged in a counterclockwise direction about a pivot pin **482** by a spring **485** mounted on a foot rotation pin **490** urging an upper end **492** of the stow link **480** to the left. A lower end **495** of the stow link **480** thereby urges the pin **465** into the aperture **470** of the hub **460**. The pin **465** is drawn from the aperture **470** by an operator pulling on the stow-lever handle **475** to shift the lower end **495** of the stow link **480** to the left.

In order for the stow lever handle **475** to draw the stow link **480** in a clockwise direction against the urging of the spring **485**, the foot rotation pin **490** must be translated to the right. As shown in FIG. **22**, the foot support **65** must be in a position wherein a foot rotation pin aperture **500** is in alignment with the foot rotation pin **490**. The position of the foot support **65**, hereinafter referred to as the stow position, is the forward position wherein the foot support **65** is accessible by the patient. With the foot rotation pin **490** in alignment with the aperture **500**, the stow link **480** can rotate about the pivot pin **482**, urging the foot rotation pin **490** into the aperture **500**. The lower end **495** of the stow link **480** draws the pin **465** out of the aperture **470** of the hub **460**. With the pin **465** extracted from the aperture **470**, the upright assembly **55** is free to rotate about the hub **460**. As the upright assembly **55** is rotated, the operator will release the handle **475** so that pin **465**, under the urging of the spring **485**, will bear against the surface of the hub **460**. As the upright assembly **55** rotates approximately 180 degrees, the pin **465** will engage a recessed stop/detent **507** in the surface of the hub **460**. The stop/detent **507** prevents the upright assembly **55** from over-rotating, and further resists inadvertent rotation of the upright assembly **55** toward the deployed position.

Referring to FIG. **23**, the upright assembly **55** is rotated to a stowed position underneath the abductor **20**. As the upright assembly **55** is rotated to the stowed position of FIG. **23**, a cam feature **510** of the upright assembly **55** acts against a tab **515** projecting from the cam wedge **275**. As the upright assembly **55** is rotated to the stowed position, the cam feature **510** rides against the tab **515** on the cam wedge **275** and forces the cam wedge **275** against the bias of the spring **285**, allowing the locking arm **260** to disengage from the rack **205**. The upright assembly **55** is thereby released for longitudinal movement on the rack **205** automatically when the upright assembly **55** is placed in the stowed position underneath the abductor **20**.

The calf support assembly **70** is illustrated in FIGS. **24**–**27**. The calf support **100** is constructed of a thermo-formed insert **101** and a urethane foam over-molded cover **102**. The insert **101** is secured to the stanchion **95** by a plate **103** and fastener **104**. This assembly is then placed in a mold for application of the urethane foam over-molded cover **102**. The cover **102** is sealed against fluids and formulated for compatibility with cleaning solutions. The stanchion **95** of the calf support **100** is secured to the phenolic ball **90** by a threaded rod **525**. A sleeve **530** is slidably received in the calf support housing **80**. The sleeve **530** includes a cup **535** having machined grooves **540** therein. The phenolic ball **90** is then received in the cup **535** of the sleeve **530** within the housing **80**. A locking ring **545** is then placed over the phenolic ball **90** and a retaining ring **530** is inserted into a groove **555** in the housing **80** to retain the assembly in the housing **80**. The handle **85** includes a threaded portion **560** that is received in a threaded aperture **565** of the housing **80**.

As best shown in FIGS. **26**–**27**, the phenolic ball **90** is free to rotate or swivel within the housing **80** in FIG. **26**, but as the T-locking handle **85** is threaded into the housing **80**, it drives the sleeve **530** into the phenolic ball **90**. The phenolic ball **90** is then locked between the sleeve **530** and the locking ring **545** to lock the calf support **100** in a fixed position.

## Operation

The foot support and abduction assembly **10** according to the invention are substantially configured for one-handed operation by an attendant. In order to rotate the abductor **20** about pivot axis **110**, an attendant need only grasp the distal end **194** of the abductor **20**, simultaneously grasping the handle **190** to release the locking arm **155** from the ring gear **140**. The abductor **20** is thereby free to rotate about the axis

110. Upon release of the handle 190 by the attendant, the abductor 20 is locked in its newly adjusted position.

The upright assembly 55 is slidably mounted on the abductor 20. In order to move the upright assembly 55 in a longitudinal direction on the abductor 20, the attendant need only grasp one of the first handle 330 or the second handle 335, thereby releasing the locking arm 260 and allowing the upright assembly 55 to slide longitudinally on the abductor 20. Since the attendant need only grasp one of the handles 330, 335, the attendant can move the upright assembly 55 while at the foot of the bed or at the head of the bed.

The foot support 65 is rotatable from a first position wherein the foot support 65 is available for use by a patient, and a second position wherein the calf support assembly 70 is presented to the patient. The foot support 65 is rotatable about the axis 105 and is released by an attendant depressing the push button 425, placing the attendant in a convenient position for rotating the foot support 65.

The upright assembly 55 is rotatably mounted to the abductor 20, from an upright deployed position to an under-bed stowed position. The upright assembly 55 is released to rotate to the under-bed stowed position by an attendant pulling on the stow-lever handle 475. While grasping the stow-lever handle 475, the attendant's hand is in position to support the upright assembly 55 for lowering. Once the pin 465 has cleared the aperture 470 of the hub 460, the attendant can release the handle 475 and, in a one-handed fashion, lower the upright assembly 55 to the stowed position. The upright assembly 55 will only rotate until the pin 465 reaches the stop/detent 507 of the hub 460. As the upright assembly 55 is lowered to the stowed position, the cam feature 510 operates to shift the cam wedge 275, thereby releasing the locking arm 260 to permit longitudinal movement of the upright assembly 55 on the abductor 20. The attendant can thereby conveniently lower the upright assembly 55 and shift it longitudinally on the abductor 20 with one hand.

Although particular preferred embodiments of the invention have been disclosed in detail for illustrative purposes, it will be recognized that variations or modifications of the disclosed apparatus, including the rearrangement of parts, lie within the scope of the present invention.

What is claimed is:

1. A foot support and abduction assembly including:

at least one abductor configured for pivotal attachment proximate a maternity bed foot section;

a foot support;

a calf support attached to an undersurface of the foot support; and

an upright assembly having a first end that is secured to the abductor for longitudinal movement along a length of said abductor and a second end to which the foot support is movably mounted, and a locking mechanism for selectively securing the upright assembly in one of a plurality of positions along the length of the abductor, the upright assembly being further configured for movement from a deployed position to a stowed position, said locking mechanism being configured to be unlocked when said upright assembly is in the stowed position.

2. The foot support and abduction assembly of claim 1, wherein said locking mechanism is configured to unlock in response to the movement of the upright assembly from the deployed position to the stowed position.

3. The foot support and abduction assembly of claim 1, wherein the upright assembly further comprises a second locking mechanism for securing the upright assembly in the deployed position, and the foot support is mounted on the upright assembly for movement between a first orientation and a second orientation, wherein the foot support is configured to simultaneously lock in the first orientation when the second locking mechanism is unlocked to rotate the upright assembly beneath the abductor.

4. The foot support and abduction assembly of claim 3, wherein the foot support is configured to remain locked when the upright assembly is in the stowed position.

5. The foot support and abduction assembly of claim 1, wherein the upright assembly further comprises a second locking mechanism for securing the upright assembly in the deployed position, and the foot support is mounted on the upright assembly for movement between a first orientation and a second orientation, wherein the second locking mechanism is configured to require the foot support be in the first orientation in order to unlock the second locking mechanism to facilitate movement of the upright assembly to the stowed position.

6. The foot support and abduction assembly of claim 5, wherein the foot support is configured to remain locked in the first orientation when the upright assembly is in the stowed position.

7. The foot support and abduction assembly of claim 1, wherein the abductor comprises a proximal end configured for pivotal attachment proximate the maternity bed foot section on a stanchion having a ring gear thereon, and the abductor further comprises a rotational locking mechanism for engaging the ring gear and securing the abductor in one of a plurality of rotational positions.

8. The foot support and abduction assembly of claim 7, wherein the rotational locking mechanism further comprises an unlock lever mounted at a distal end of the abductor.

9. The foot support and abduction assembly of claim 7, wherein the stanchion that mounts the abductor also mounts the maternity bed foot section.

10. The foot support and abduction assembly of claim 1, wherein the movement of the upright assembly from a deployed position to a stowed position is a rotational movement about a mounting hub.

11. The foot support and abduction assembly of claim 10, wherein the upright assembly further comprises a detent to prevent over-rotation of the upright assembly about the mounting hub and to resist shifting of the upright assembly from the stowed position.

12. The foot support and abduction assembly of claim 10, wherein the upright assembly further comprises a cam feature configured to unlock the locking mechanism.

13. The foot support and abduction assembly of claim 1, wherein the upright assembly further comprises a cam feature configured to unlock the locking mechanism.

14. The foot support and abduction assembly of claim 1, wherein the upright assembly further comprises first and second handles each configured for unlocking the locking mechanism.

15. The foot support and abduction assembly of claim 14, wherein the upright assembly and locking mechanism are configured for one-handed operation and movement along the abductor.

16. The foot support and abduction assembly of claim 1, wherein the calf support comprises a thermoformed insert and a urethane over-molded cover.

17. A foot support and abduction assembly including:

an abductor configured for attachment to a maternity bed;

a foot support configured for pivotal movement between a first orientation and a second orientation; and

an upright assembly having an upper end and a lower end, the lower end of the upright assembly being pivotally and slidably mounted to the abductor and the upper end configured for mounting the foot support, the upright assembly being configured for movement from a deployed position to a stowed position, the upright assembly including a first locking mechanism for releasably securing the upright assembly in a longitudinal position on the abductor and a second locking mechanism for releasably securing the upright assembly in the deployed position, the foot support being pivotally mounted to the upper end of the upright assembly, the second locking mechanism being capable of releasing the upright assembly with the foot support in the first orientation, and the first locking mechanism being released when the upright assembly is in the stowed position.

**18**. The foot support and abduction assembly of claim **17**, wherein the foot support is fixed in the first orientation in response to the upright assembly being in the stowed position.

**19**. A maternity bed having a foot support and abduction assembly, the foot support and abduction assembly comprising:

an abductor having a proximal end pivotally connected to the maternity bed, a rack section mounted to an underside thereof, and a pivot locking mechanism for fixing a pivotal position of the abductor relative to the bed, the pivot locking mechanism having an unlocking lever positioned at a distal end of the abductor;

an upright assembly having a mounting assembly slidably connected to the abductor and pivotally supporting the upright assembly, a slide locking mechanism for releasably fixing a longitudinal position of the upright assembly on the abductor, the upright assembly including a pair of opposed handles for unlocking the slide locking mechanism, a rotational lock for releasably fixing a rotational position of the upright assembly relative to the abductor; and

a foot support pivotally connected to the upright assembly, the foot support having a rotation pin receiving aperture, the upright assembly including a foot support pivot and a rotation pin configured to engage the rotation pin receiving aperture in order to release the rotational lock.

**20**. The foot support and abduction assembly of claim **19**, wherein the upright assembly further comprises a cam feature, the cam feature releasing the slide locking mechanism upon rotation of the upright assembly to a stowed position.

**21**. The foot support and abduction assembly of claim **20**, wherein the foot support is pivotally fixed with the rotation pin engaging the rotation pin receiving aperture.

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